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HOW AND WHAT TO GROW
IN A
KITCHEN GARDEN
OF ONE ACRE.

DARLINGTON AND MOLL.

THE Poultry Yard. HOW TO FURNISH AND MANAGE IT.

BY W. ATLEE BURPEE.

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THE NEW EDITION for 1888 contains, besides the above, an illustrated chapter on the training and care of SCOTCH COLLY or SHEPHERD DOGS, also new improved plans of Poultry Houses, with illustration.

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HOW AND WHAT TO GROW
IN A
KITCHEN GARDEN
OF ONE ACRE.

BY
E. D. DARLINGTON AND L. M. MOLL.

EDITED BY
W. ATLEE BURPEE.



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EDITOR'S PREFACE.

In BURPEE'S FARM ANNUAL for 1887 we offered cash prizes for the two best essays, to be sent us by October, 1887, upon the subject, "HOW AND WHAT TO GROW IN A KITCHEN GARDEN OF ONE ACRE." In its original form E. D. DARLINGTON's essay covered more fully than any other the operations and best methods to pursue in the management of the garden, and was awarded the first prize. Being desirous, however, of making this work not only practical but thoroughly complete in all departments, and from personal acquaintance with Mr. Darlington and his gardening operations, together with the fact that for some years he had tested numerous varieties of vegetables for us, we arranged with him to entirely revise and enlarge his essay. In compliance with our request he has entered more into detail in the directions for culture, and has added impartial descriptions of the varieties that he has found best adapted both to the Kitchen Garden and the table. To make the treatise more complete, he prepared a

diagram of his own kitchen garden, which is one acre in size, as laid out for a year's work. Some varieties grown are not marked in the diagram, as they are worked in as parts of other rows, but this is all fully explained in the body of his treatise.

To add to the value of the book as a plain and practical guide for the novice in gardening, we have had illustrations engraved showing the two plans of hotbeds, the methods of storing roots for winter use, etc. We have also inserted engravings, mostly drawn from nature, of the leading varieties of vegetables described in the text, that the gardener may have an accurate idea of the form of the different varieties and may be able to tell whether his products are of the right type.

We take pleasure, also, in publishing the essay of Miss L. M. MOLL, of Illinois, which was awarded the second prize. We are glad to note that she has been explicit in describing the culture of some of the less generally grown varieties of salads and herbs which are valuable adjuncts to the table, and upon which Mr. Darlington has failed to treat. Some of the methods described in this essay are, however, unnecessarily laborious. For instance, the wide bed of perennials, as described, would require considerable hand labor to keep the soil loose and free from weeds; while, if planted in long rows, horse cultivation

would lessen this tedious work and would also loosen the ground to a greater depth. The varieties recommended by Miss Moll, while generally good, have in some cases been surpassed by improved varieties of more recent introduction.

As presented in the following pages, the two essays will, we believe, make this book, for general use, the most complete and practical treatise on gardening published. Such has been our earnest endeavor, and we are confident that it will be recognized as a thoroughly trustworthy guide. With careful study of its teachings, the novice should be able to plant and successfully manage a Kitchen Garden, be it one acre, more or less, while we trust that experienced gardeners will find much to commend and will be able to gain some new ideas.

W. ATLEE BURPEE.

PHILADELPHIA, December 16th, 1887.

HOW AND WHAT TO GROW IN A KITCHEN GARDEN OF ONE ACRE.

BY E. D. DARLINGTON.

In order to treat this subject in detail, I shall first write on what the kitchen garden should be, where it should be, and how to keep it in the best order to produce the desired results, then take up "What to grow" and "How to grow it."

SITUATION OF THE GARDEN.

The garden should be situated conveniently near the farm buildings, as it should be visited frequently; a variety of tools are needed in its care, and each should be put away as soon as done with, that it may be preserved in the best order for use. It is often necessary to carry water to help along young trans-

planted stock that has been overtaken by a dry spell. Where the distance has to be traversed so frequently, it naturally follows that the shorter it is the greater will be the saving in time and the less likely is the garden to be neglected.

The garden should be as nearly level as possible, or, if sloping, not so much so as to be in danger of being washed by heavy rains. If sloping, the slope should lie to the south, or as nearly south as possible. A plantation or hedge of evergreens on the north side of the garden will be found a wonderful aid to the earliness of the garden truck and to the hardiness of the small fruit plants and roots which remain in the ground all winter; if a woods or high hill be directly on the north and northwest of your garden, it will answer nearly as well as the hedge of evergreens. The garden should be so situated as to have good surface drainage; without this or expensive underdraining, it will hardly be possible to raise early or fine vegetables at any profit. These I consider the most essential points in selecting the plot for the garden; of course, a good, rich soil is to be desired, but the gardener can, by the liberal use of manure and thorough cultivation, remedy a deficiency of this kind in a couple of years, while he cannot make a favorable location for early vegetables on a north slope if he should try a lifetime. By a careful study of the varieties in cultivation, and by trials of their merits in your garden and *on your table*, experience will be gained which will enable you to grow as fine vegetables and fruits on heavy soil as on light, sandy loam, and *vice versa*.

THE SOIL OF THE GARDEN.

Ground that has been worked in some cultivated farm crop, such as corn or potatoes, is more desirable for starting a garden than fresh sod land, as it is more easily brought into fine condition in the early spring; while grass is one of the hardest weeds to exterminate, especially among small hoed crops, such as strawberries, onions, beets, etc. Sod land is also often full of grubs, which work havoc among the strawberry plants and young melon and squash vines. In either new ground or in the old established garden, it will be of great advantage to put the long, coarse manure on the ground in the fall, and plow it well under as soon as the ground can be cleared of the summer crops. The soil should be left just as it is plowed, without harrowing, leaving the lumps and ridges to the action of the frost. This will be found of especial benefit to heavy soils that are late in drying in the spring; it also adds a great deal to the appearance and cleanliness of the garden, as the weeds, old stalks, etc., are all cut off and burnt before plowing, instead of being left to scatter their seeds with every winter wind.

The gases arising from the decaying of the coarse manure in the soil tend to lighten it, instead of being wasted in the air, as is the case when the manure is in heaps or in the barnyard. By plowing-time in the spring the manure will have assimilated with the soil and will be thoroughly worked through the cultivated surface, thus affording food for the crops in all stages. If such manure is applied in the spring, it will make dry or thin soil still drier, and unless

plowed well under, where it would take the roots a long time to reach it, will burn the young plants up if the season should happen to be a dry one. The great value of compost in starting young plants is that it affords rich food in proper form for the tender young rootlets, enabling the young plants to make a quick, tender growth, which is very essential if vegetables of fine quality are desired. By fall manuring and plowing the whole garden is composted, while the action of the frost on the lumps and ridges pulverizes them, leaving the soil in a fine, friable condition.

LAYING OUT THE GARDEN.

It is most convenient to have the garden as nearly square as possible, which in our garden of one acre will be 208 x 208 feet. This makes the length of the rows a very good measure of the quantity to be grown, and affords as many rows to the ground as can be profitably worked, for it is desirable that the rows should be as nearly east and west as possible, and they should be the long way of the plot (if not a square), as it will result in great saving of time in planting and cultivating. Moving the line and drawing the cultivators out of one row and turning into the next, takes nearly as much time as the working of the short row.

In plowing, a good, wide headland should be left at each end of the garden; it should be wide enough to allow the horse and cultivator to come clear out from between the rows and to turn into the next

row, without damaging the plants at the ends of the rows by trampling and dragging the cultivator over them.

In winter, while there is plenty of time before the spring opens, the summer campaign should be planned—what vegetables are to be raised and what quantity of each will be needed, in what part of the garden it will be best to plant each variety so that the pollen from different members of the same family, such as cucumbers and cantaloupes, will not mix and spoil each other's fine flavor. If the soil is of different quality in different parts of the garden, it should be planned so that the heavy and the lighter portions shall be occupied by such crops as will succeed best in the respective soils.

Ease of cultivation and the rotation or succession of crops should also be considered. The small-growing plants which require hand hoeing should be together, and likewise those which are to be worked with the horse cultivator. Where the ground is to bear two crops—one planted after the other has matured and been taken off—it will be of advantage to have such crops together, thus making larger plots for the replowing and a consequent saving of time and work.

Beside these conditions in laying out a new garden, when it comes to the second or succeeding seasons, the crop or crops raised in the plot the year before must be taken into account. The situation of the crop of each particular vegetable should be moved to another part, as each draws certain proportions of the food elements from the soil, and those of

a different character should occupy the ground in rotation, that the soil may be kept in the richest state. Thus the quality or size of the crop will not be lessened by being planted in a situation that it has depleted, to some extent, of its own particular food the year before. Reference should also be had to the kind of food which the plant requires, as in the case of strawberries and potatoes, which should not succeed each other without special manures, as they both exhaust, to a great extent, the potash in the soil, so that the soil, having borne a heavy crop of one, would of necessity make but a poor return of the other if planted in direct succession. If this cannot be overcome by a change of location, the gardener will know that the proper food elements have been depleted by the previous crop, and must try to supply them with special manure or commercial fertilizers.

It is of great importance to rapid work and good gardening that all this should be arranged and settled in the gardener's mind, or better, plotted out on paper, before the first plowing is done in the spring. The plan being kept would be valuable in laying out the garden the succeeding year, as it would show just where each vegetable had been grown and where the different kinds of manure had been applied. If, in addition, the success of the various crops and notes of their growth were marked upon it, it would form a most valuable text-book for the study of improved gardening, each garden being an experimental station and each gardener a student in pursuit of knowledge and advancement in his

work, feeding at the same time both physical and intellectual needs.

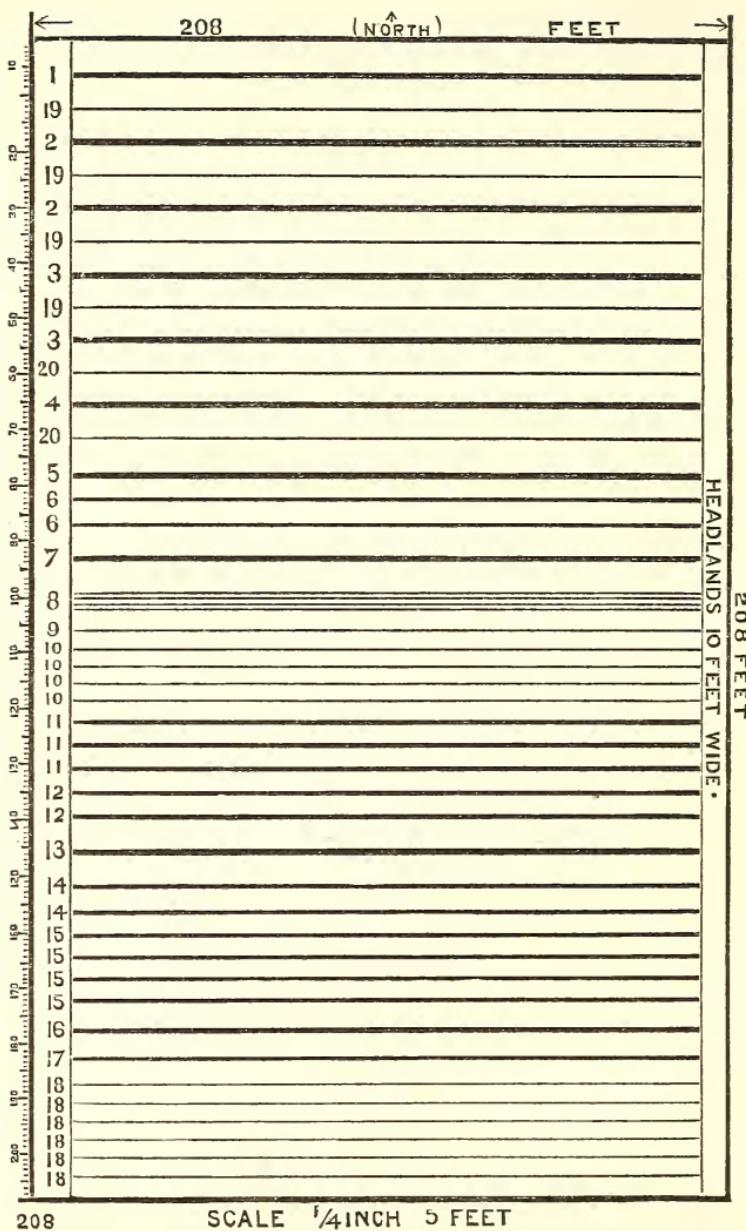
DIAGRAM OF THE GARDEN.

The accompanying plan may be of use to the novice in gardening on the scale suggested by our subject, as it is planned to admit of a proportionate quantity of such vegetables and fruits as are grown in the ordinary garden, while directions for planting and cultivating the various vegetables will be found in the special descriptions of the several varieties. (See p. 16.)

PROCURING THE SEEDS AND PLANTS.

Having the plan of work all settled, the next thing is to know what is to be grown, the varieties of each that are best adapted to the situation and soil of the garden, and where they can be procured of the best quality. Under this head come the seeds needed for the vegetables and the roots, tips and runners for the plantings of small fruits. This should be done as soon as convenient, as I have found by experience it is a great saving to have the entire supply of seeds on hand a week or two before it is possible to begin planting. This is an important item, as I have sometimes lost my crop from planting inferior seed purchased at the last moment from the commissioned seeds that are sold in the country stores. It does not pay to economize or try to garden with poor seeds; it is a waste of time and labor in planting, and a waste of ground and manure, as the inferior vege-

A KITCHEN GARDEN



tables raised will hardly cover the original cost of the seed. The gardener who sells his products, unless his crops are of the best, will soon find his trade falling off, and will be compelled to seek new customers each market day. Personally, I have found it more satisfactory and productive of better results to buy

KEY TO DIAGRAM.

Row No. 1. 25 grape vines, planted about $7\frac{1}{2}$ feet apart. The first three years these are trained to plain stakes or bean poles, the space in the rows between the vines being planted with strawberries, peas, beans or some other low-growing crop, to occupy the ground and insure good cultivation. When the vines have made strong canes and have reached the tops of the poles, a post is set at each vine and a trellis made, as described in the chapter on grapes. This row is six feet distant from the north boundary line of the garden.

Rows No. 2. These rows are twelve feet distant from each other and from the row of grapes, and are planted with blackberry vines, at a distance of three feet in the rows. Though this may seem like a good deal of "elbow room," it is as close as they can be planted to keep them in good order; if planted closer they will form an impenetrable jungle by the end of the second season.

Rows No. 3. These two rows are planted with red and black raspberries, the rows also twelve feet apart, but the plants set $2\frac{1}{2}$ feet apart in the rows.

Row No. 4. This is planted with rhubarb, sage and thyme, currants and gooseberries, and is twelve feet distant from the rows on either side.

Row No. 5. Is twelve feet from row No. 4, and is planted with asparagus, as described in the special chapter on that vegetable.

Rows No. 6. These two rows are to be planted with spring-set strawberries for the next year's crop, and are four feet distant from the asparagus and from each other. The strawberries are intended to be grown on the matted row plan, and to be cultivated with the horse cultivator; if they are to be grown in stools, another row can be planted between them, and the whole worked with the wheel or hand hoes.

Row No. 7. This row is for watermelons or cantaloupes, and the line of hills is six feet distant from the row on either side. The space in the row between the hills can be planted with egg plants, cabbage, lettuce or such other plants as may be desired.

Row No. 8. This row is a space four feet wide, with room for the cultivator on either side; this is raked fine and planted in four rows one foot apart, the first row containing beets and carrots; the second, onions; the

each season almost all the seeds needed from some reliable seedsman, rather than to depend on those of my own saving. For instance, such as peas, sweet corn and other vegetables, where the earlier the crop is ready to market the greater the profit; these mature much earlier if the seed is procured from reli-

third, lettuce, radishes, etc.; the fourth, with a dozen plants of parsley, and the balance of the row in endive and parsnips. When the two middle rows have been cut out, the cultivator can be used to work the beets, parsnips, etc., in the outside rows.

Row No. 9. This row is three feet distant from the parsnips, and is planted with early cauliflower and early cabbage, with two plants of lettuce between each of the other plants, which are set $1\frac{1}{2}$ feet apart.

Rows No. 10. These are four rows of peas, different plantings, two kinds, early and medium, in each row, in equal quantities, rows three feet apart. These are to be pulled out as soon as the crop is gathered, and two rows of celery planted six feet apart.

Rows No. 11. Here are four rows of early sweet corn, in four plantings of successive kinds, to be cleared off and followed by turnips, drilled in rows one foot apart, and worked with the wheel hoe; or the seed may be broadcasted after a thorough cultivating, when the ears of corn are well set, without clearing the ground. This is not nearly so satisfactory a plan as to wait until the ground can be cleared and drilled. The rows of corn should be four feet apart.

Rows No. 12. Two rows, $4\frac{1}{2}$ feet apart, of Lima beans, with the poles about $2\frac{1}{2}$ feet apart in the row.

Row No. 13. This row should have six feet clear on each side for the vines to run, and is to be planted with cucumbers and squashes. The space between the hills can be occupied with pepper plants or sweet corn.

Rows No. 14. Two rows of tomatoes, four feet apart.

Rows No. 15. Four rows of late sweet corn, four feet apart.

Rows No. 16. Two rows of sweet potatoes, five feet apart and five feet from the corn and pole beans on either side.

Row No. 17. One row of pole snap beans. About three kinds should be planted, that they may be had in succession.

Rows No. 18. Five rows early potatoes, three feet apart, plowed in when the ground is plowed in the spring. When cultivated for the last time, plant a row of late cabbage between each row of potatoes; when the latter are ripe, dig with a fork, clear the ground of vines and cultivate the cabbage thoroughly.

able seedsmen who have their supplies grown in the North. Such northern grown seeds retain their instinct to hurry up and mature in a short season, while in one's own saving they begin even in the first year to grow more leisurely and to accommodate themselves to the longer season. In the case of peas, those grown in Northern New York and Canada, such as are sold by all our leading seedsmen, will mature from one to two weeks earlier than those saved in our own neighborhood. The northern peas are also generally free from the weevil or striped bug, which bores the large round hole in all the home-saved peas and destroys their germinating power. So it is with almost every known variety of vegetable; each has some special locality in which it reaches a higher degree of perfection than in others less favorably situated. While, of course, these facts are of interest to the gardener, they are only learned after years of experience, and it is the seedsmen's business to know the peculiarities of the different varieties, and to raise or procure his stock from the best strains grown in the most favorable localities. It is for the gardener to purchase from a seedsmen whom he knows to be thoroughly reliable, and whose interest it will be to serve him with prompt shipments and carefully-selected strains of the vegetables desired. All this is equally

Rows No. 19. Sweet corn planted between the rows of berry bushes; a large late variety will be the best for this purpose.

Rows No. 20. Two rows of fruiting strawberries, to be plowed under and be replaced by peas sown in August. This, of course, applies only to a garden of at least a year's standing; and the fruiting plants of strawberries will come in a fresh place each year. The rows No. 6 being the bearing plants next season.

true of the nurseryman or small-fruit grower from whom the supply of roots and plants is to be purchased. On no part of the farm is "*Pedigree Stock*" of more importance than in the kitchen garden. I will speak further on of the saving of seeds, and refer now only to those which it is necessary to buy. First, it is often a saving of several days to have the seed on hand, as it is sometimes impossible to foretell just when you will need the seed to plant a certain plot, how soon the ground will be fit to work, or how soon will come the opportunity, in the press of other work; if you have the seed at hand that part is always ready, and this is quite an item where the garden frequently has to be attended to in the intervals of farm work. Next, it is a cash saving to order all your seeds at one time. If, as is most frequently the case, you have to send to some large city for your supply, by procuring all that you need at one time, you have but one freight or express charge to pay. In making up your order, stick to the old varieties that you know suit your soil and your market; all the more if your market is your own table, for the greatest pleasure in gardening is in testing the merits of your fruits and vegetables with the appetite engendered by their culture. Also take into consideration the preferences of the household department as to the cooking merits of the different varieties. Do not experiment with your main crop of any vegetable, but do not neglect to try such new varieties as seem to possess merit, for the varieties are being continually improved by good culture and selection, as well as by hybridization or cross-breeding. To have a fine garden, the gardener

must know the merits of all new and old varieties, and be as progressive as is the successful man in any other line of business. I know of nothing so interesting as watching the growth and development of some new and improved variety that has been recommended to the gardening public in the most glowing terms, and often in glowing colors on a beautiful colored plate. Although I have been "taken in" fully as often as the average gardener of my experience, I have been many times repaid all trouble and outlay by the numerous successes that I have met with and the great improvement in some of the varieties grown. Sometimes I have made quite a nice little sum out of these novelties, when I have been able to sell the selected seed of the new variety to some other seedsman or to my neighbors. In these new varieties, more than in any others, do you need to order early, or, instead of the seed that you desire and which is to make reputation and money for you, "being something superior to anything ever grown before," you may get one of those provoking little slips stating that the seedsman "regrets to inform you that, owing to the great demand, the supply is exhausted for this season, and hopes that the substituted kind will do as well."

HOTBEDS AND COLD FRAMES.

With a garden of this size I would have hotbeds, cold frames and rich seed beds of fine light soil; these I would not have in the garden itself unless that be the most convenient place. Where there is time to attend to them, they will be a measure of

economy, it being much cheaper to raise than to buy the plants, if you use more than a few dozens, while, if you have the time and room, quite a business can be done by supplying your neighbors who do not garden on such an extensive scale. It is best to locate the frames on the sunny side of a barnyard wall, or against a building that will shield them from the north wind and make a warm nook for them on sunshiny days. They should be situated conveniently near both to the manure pile and to a good supply of water, where they will constantly be under the eye in passing to and from the farm-work and will not suffer neglect from being forgotten or overlooked. It is quite important that there should be good drainage from these beds, as they are most needed at a rainy time of the year; dampness is not only injurious to the young plants, but it also takes up a great deal of the heat which should go toward forwarding the growth of the young plants. The sashes can be bought, ready painted and glazed, at the planing mills in most cities, and this is much the cheapest way to procure them, as they can often be bought for what the bare sash would cost in a small order at a country shop. They come $3\frac{1}{2}$ feet wide by 6 feet in length, and are $1\frac{1}{2}$ to 2 inches in thickness, and if stored in the dry when not in use, and are treated to an occasional coat of paint, will last a lifetime.

Three or four sash would be amply sufficient for a garden of an acre if used in succession, sowing one lot of seed as the preceding planting is set out in the garden ; though, of course, more sash can be handled without any great increase of labor, and the season

much advanced by growing radishes, lettuce, beets, etc., to maturity under the glass.

In making the hotbed, dig a trench a few inches short of six feet in width, or as wide as the sashes will cover, about two feet in depth and as long as the combined width of the number of sashes which you wish to use. This is then to be boarded up with rough boards, but they should be neatly joined and plastering laths or building paper tacked over the

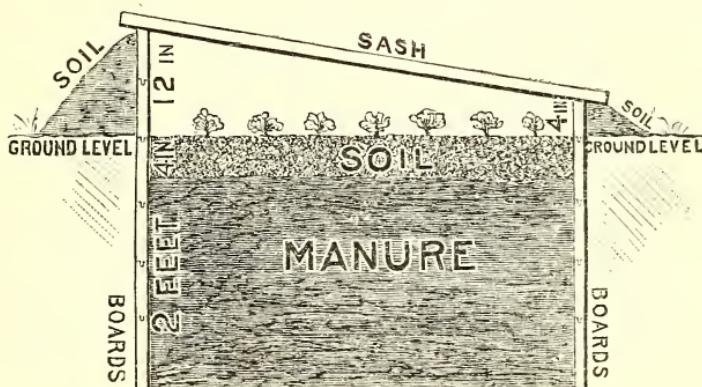


Illustration showing the manner of making the hotbed when sunk below the surface of the ground.

cracks, so as not to waste the heat. The back or north side of this frame should be 6 or 8 inches higher than the front, so that the rain may run off the sashes. The sashes held at an angle in this manner will also receive more sunlight for the front part of the bed than if front and back were level. The whole frame of the bed should be banked round with the dirt thrown out, or better with fresh stable manure, which

will help to keep it warm and will make a bank to drain away any surface water, which, being very cold in the spring, would, if allowed to penetrate the bed, tend to chill the heat of the fermenting manure, and consequently check the growth of the young and tender plants, even if it did not generate that great enemy of all young plants, fungus or mildew, causing them to rot or "damp off."

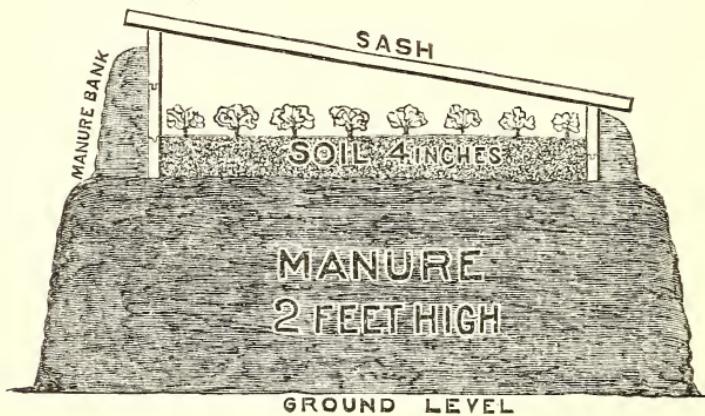


Illustration showing the manner of constructing a hotbed above the surface of the ground.

Or, if there is plenty of fresh stable manure at hand, it can be corded in a pile two feet high and extending a foot wider than the sash frame on all sides; and when the frame has been put in position on the heap, the manure should be carried up on the outside nearly to the top of the boards, making a warm jacket for the plants within. A portable frame of boards is made for the sash to rest on, twelve inches

high at the back and eight inches in front. This style of bed does away with any digging and secures good drainage for the bed. It would probably be the most satisfactory way for the gardener, who is also a farmer, as the bed can easily be removed as soon as it has served its purpose for the season, and the manure, which has become well rotted by this time will make an excellent compost for corn, melons, celery, etc. The frame and sash can also be set on a good piece of ground in the fall and filled with young lettuce plants in the early part of October, which will furnish salad throughout the winter.

The manure and litter which are to produce the heat for the bed should be thoroughly forked over and heaped together a week or ten days before the beds are to be started. While a large proportion of the material should be fresh horse stable manure, where a large quantity of heating material is needed, it can be mixed with any litter obtainable, such as straw, leaves from the woods, weeds, cut fodder, or anything that will furnish bulk and that will decay rapidly, and, by decaying, produce heat; when the material has all been gathered and heaped solidly together, a good sprinkling with water, hot, if possible, will aid in starting the fermentation. In about a week or two, when the heat of the heap has gone down to 95° or 100°, the manure should be placed in the beds and well trampled down; it should come up to within eight inches of the front of the frame and should be covered with about three and a half or four inches of fine, rich soil. It is a good plan to

sift the dirt through a coal sieve, as it then makes a fine bed for the seeds and young plants.

Place the sashes on as soon as this is done; handling the manure and repacking it will produce some fresh heat and it will still be too warm to sow any seed, but the heat will destroy such weed seeds as may be in the soil, and the steam and gases arising from the manure will tend to put the soil in the finest possible condition for forwarding the growth of the young plants. A thermometer should be placed in the soil of the bed every day or two, to see if the temperature has fallen sufficiently to admit of sowing the seeds. As soon as the temperature has fallen to about 75° ; or, if no thermometer is at hand, as soon as the top sod is only perceptibly warm to the palm of the hand, the bed should be sprinkled, and as soon as this has dried off a little, rake it up thoroughly and sow the seed. The seed will produce finer and stockier plants if sown in drills about six inches apart, which will admit light and air to the roots of the plants, and will permit a weekly hoeing. In planting seeds, the depth of their covering should be about five times the diameter of the seed, and this covering should be firmly packed around them after planting. The starting and planting of these beds must be calculated, so as to have the plants ready to set out as soon as the garden can be worked. In this vicinity (Philadelphia) the first sowing of cauliflowers, lettuce, beets and early cabbage should be made about February 15th, or even earlier, depending on the forwardness of the season or of

your own particular garden. The plants will then be of a suitable size for transplanting by the time the early part of the garden has been plowed. If the sashes are covered with old carpets or straw on cold nights, it will be a great saving of the heating power of the manure and will prevent the young plants from being chilled. The young plants should be treated to fresh air whenever the outside temperature is not too cold, that they may not become "drawn," or "spindle up" into long, slim stems. As planting-out time approaches, the young plants should be left uncovered as frequently as is safe, that they may become sufficiently hardy not to miss the covering when removed to the open ground.

Tomatoes, peppers and egg plants and a second sowing of early cabbage should be sown in the same manner about the middle of March. If a few extra early plants are wanted, they can be transplanted into the earliest beds when the cabbage and other plants have been set out in the garden, and the sash again put on. If some sweet potatoes are buried about two inches deep in the dirt of one of the cabbage frames, and kept warm, they will produce a fine lot of sprouts, or, as they are called, "sets," which can be broken off and planted in the garden when the weather has become sufficiently warm. If a number are wanted, or there is danger of their growing too large, they can be taken off and "heeled in" in another sash until planting time, and the potatoes put back again, as they will produce two or three crops of the sets. Or a hill of cucumbers can be planted in the centre of each sash as a second crop,

and by the time it would be warm enough to leave them uncovered, these will have filled up the frame with bearing vines, gaining at least a month on those planted in the open ground.

While the cabbage, cauliflower, beets and lettuce may be planted out as soon as all danger of frost is over, the tomatoes, peppers, egg plants, etc., should not be set out until the thermometer stands at over 60° all night, or until the oak leaves are as large as a five-cent piece. In a small hotbed it is best to have a partition between each sash and the one next to it, so that such as are tender varieties may be kept warm and the more hardy cabbage may have plenty of fresh air, for if the latter should become "drawn," all the advantages of an early start will be lost and the plants may become entirely worthless.

Sowings of seeds for early plants may be made in the same manner as above described for hotbeds, in cold frames, which are the same without the artificial heat germinated by fermenting manure, depending solely on the heat of the sun and the protection of the sash to forward the plants. They can be planted about two weeks later than the dates given for the respective vegetables in hotbeds, and the plants will be ready for setting out about the same length of time later than those raised with the artificial heat. These frames can also be used for wintering over a few fall-sown cabbage plants, which are useful in a very early season and can be kept full of parsley, lettuce, etc., making a pleasant variety of greens for the table during the winter.

As soon as it is warm enough to dig them and

bring them into fine order, seed beds should be made in a sheltered spot of the garden, for the sowings of late cabbage and celery, which will be spoken of in detail under the special directions for growing these vegetables.

TOOLS.

Although not positively necessary, it is of great advantage to have a variety of tools for thoroughly working the soil and to facilitate the labor of planting and harvesting the crops, and exterminating weeds. If, however, the garden is as well cultivated as it should be, there will be no chance for weeds to start, as they will all be destroyed in their earliest stages.

While there is a general assortment of tools on every farm suitable for use in the garden, I will give a short list of some especially adapted for use in the kitchen garden and the modes and purposes of using them.

First is the Plow. For the first plowing in the spring, and for the general plowing in the fall, I use a large two-horse plow, which takes a generous slice and will put the manure down as may be wished and return the enriched soil to the surface in the spring, again turning in another coat of manure, if it is to be had in sufficient quantities to do so. So long as the fresh manure does not come in direct contact with the young plants, I do not think it is possible to put in too much, at least in the first three years of the garden. In my soil, which is rather heavy, I plow six to eight inches deep; in light soil I would

plow deeper, as the roots penetrate it much more rapidly. For working among the strawberries and permanent rows of small fruits, I use a light one-horse plow, with a swingle tree just wide enough to permit the horse to move freely ; this plow is also used in plowing out the potatoes and in preparing the ground for a second crop. If the share is kept sharp, as it always should be, it will be found very useful in the cultivation of the berries, melons, etc., as with a good plowman it will go deep or shallow, or will slip around some point to be missed much easier than the cultivator.

When these plows are not in use I give the mould-board and all bright parts a coat of thick whitewash; this keeps them from rusting, so that plowing a single round leaves them bright and shining. A coat of this on all bright tools, spades, hoes, etc., in the fall, will keep them in the best order through the winter, so that no time will be lost getting them into good working condition in the spring.

A good companion to the light plow is a one-horse HARROW, of a V shape, with long, slender teeth. It is a splendid tool for making a good, deep bed of fine earth for seed sowing or setting out small plants. Where more land has been plowed than is needed for immediate planting, I run over it with this implement when working the balance of the garden, so keeping it clear of weeds and in fine condition for planting. It is especially convenient to have the ground in this shape for planting cabbage, celery, tomatoes, etc., as you can take advantage of a good shower to set them out while the ground is thoroughly

wet. My plan is to commence planting when the rain begins, the fresh plants having the full benefit of the shower.

The ROLLER and the Harrow generally go in succession, and a light one-horse roller will be found very convenient, but the large farm roller will do equally good work where one is at hand and there is room for it to be used. A small hand roller, about three feet in width, for rolling in small drilled seeds, such as beets, onions, turnips, etc., and by which the dirt can be settled over a row of peas or corn when only a few rows are planted at once, will many times repay the labor of making it. A piece of six- or eight-inch drain pipe, with the bell knocked off, an iron bar run through the centre for an axle, and the whole inside filled with mortar or concrete and allowed to get perfectly hard, will make as fine a hand roller as need be, or one can very easily be made from a smooth section of a tree trunk. This implement would probably be much more useful than the one-horse roller. It always pays to roll ground every time it is plowed, and too much stress cannot be laid on the value of firmly compacting the soil around freshly sown seed.

The CULTIVATOR is the most important and most frequently used tool in the garden, and should be of the best make obtainable. I consider the IRON AGE or PLANET, JR., the best, they having a light iron frame which is very strong without being clumsy; the spreading bars close inward, so that they do not catch or interfere with the plants in narrow rows, and admit of working rows not more than two feet

apart, so that the ground can be cropped to its full capacity. They have a variety of adjustable and reversible teeth, including plow, shovel and cutting teeth, which will throw the soil to or from the row, or leave it loose and level; in light soil this cultivator will loosen and let in the air seven or eight inches deep. These adjustable teeth are all sharpened at each end so that they can be turned around, so saving the number of times that they will need grinding, as both ends can be used and one grinding suffice where it would take two in the ordinary style of teeth. When worn out, the whole set can be taken off and new ones purchased at a very moderate cost. This part of the implement should be well watched and the teeth kept in good cutting condition, as it will not only kill the weeds a great deal more thoroughly when sharp, but will also be much lighter of draft.

Next to the cultivator comes the WHEEL HOE or hand cultivator. By the use of this implement, roots and small growing vegetables, such as onions, beets, parsnips, lettuce, radishes, parsley, etc., may be planted and thoroughly worked in rows from six to twenty-four inches apart; thus more than doubling the amount that can be raised by horse cultivation. A good implement will not throw dirt over the small plants as the larger cultivator does, so that the rows can be worked closely enough to avoid having to be gone over with the hand hoe after the thinning out has been done. In my experience, I have found that a man can hoe more ground and do it twice as deep and well in one hour with one of these implements

than he could do in a day with the old style hand hoe. There are numerous styles of wheel hoes on the market, but the only good one that I have ever seen is "Lee's Wheel Hoe," which is made in Philadelphia under the patent of the inventor, who is himself a prominent trucker. It is strong, light and well built; it has five sharp, finger-shaped teeth back of the wheel, which loosen and pulverize the soil, and a broad hoe blade behind, which travels beneath the surface, turning the soil over and cutting off under ground any weeds which may be in its track. When the soil is in good order, it leaves it as smooth and fine as would a steel rake. To obtain the best results with this tool or with the cultivator, you should go through each row three or four times, so as to pulverize and work over the soil thoroughly. The hoe blades are of different widths, for working rows of different widths, a set of three going with each implement. These hoes can easily be sharpened by any blacksmith. Keep them well sharpened, and it will be surprising to note how much less muscle it takes to push them and how much better the work is done. I have tried several different makes, as I work an acre or more each year with one of these hoes and a "Fire-fly" hand plow, which is run before the wheel hoe when the ground is very hard, and Lee's is the only one that works satisfactorily. When the ground is in the best condition a man can hoe the acre in a single day, so that it will readily be seen what a labor saver it is.

The FIRE-FLY HAND PLOW just spoken of is a very convenient tool for making drills, and will plow out

a furrow from one to four inches deep, for sowing peas, corn, beans, etc., and coming back alongside of the open furrow will cover them nicely, not taking one-quarter of the time necessary to make the drill with a hoe and cover with a rake, as it is ordinarily done. It is also very handy to strike out a furrow in this way when planting strawberries, cabbages, tomatoes, etc., especially where two are employed on the same work, as one can strike out the furrows, and drop a plant where each one is to stand, while the other, following, sets the plant with one hand and with the other pulls in and places the loose covering dirt, and finally tramps the soil firmly round the new-set plants with his feet. These two last-mentioned tools are very useful in the ordinary small garden; they enable the work to be done much more quickly and very much more thoroughly than is often the case, the spring spading being generally the only good stirring the soil gets in the season.

A SEED DRILL is a very handy tool, but it is quite expensive. In the kitchen garden there is seldom more than one or two rows across the garden to be sown with any one kind of seed, and this can be done almost in the time it would take to adjust the drill, although the drill works a great deal more evenly than the seed can be sown by hand. On a farm where root crops are raised for soiling, the drill will be a measure of economy, even for a single season, and can readily be used in the garden. The combined implements, with plowing and hoeing attachments, are "*a delusion and a snare*;" if you want a tool that will do good work, and will not get out of order

or break, do not have it "combined" with anything else.

Of HAND-HOES, STEEL RAKES, TROWELS, SPADES, SHOVELS, ETC., there should be enough to furnish each man employed, as it is frequently desirable to have all hands working on the same job. Of these, the hoes, spades and trowels should have an intimate and frequent calling acquaintance with the grind-stone. It is much easier to work with a *sharp* hoe or spade, and the work is much better when done.

There should be a good stout cotton LINE, long enough to reach across the garden, and a reel to keep it on is a great convenience, as it takes such a short time to wind it up that there is not the same temptation to leave it out all night. A good cotton line, carefully housed, will last for years, and is one of the most important requisites in the garden. Neatness is one of the essentials of good gardening, and I have never known a gardener successful who was "hit or miss" in laying out his rows; every plant must be squarely in the row to admit of close working with the cultivator. If it is necessary to keep a few inches away from the row to avoid cutting the stragglers, either the soil is not loosened around the plant as it should be, or it has to be gone over with the hand hoe, which consumes time in a large garden.

PLANTING THE GARDEN.

It is common in most gardens to plant blackberries, raspberries, currants, etc., around the fences. This is not only a waste of half the fruit, as it can

only be borne on one side, but involves much needless labor in keeping the plants trimmed and worked, and unless hoed frequently the plot becomes a harbor for weeds. The only advantage in so planting is the protection the fence affords in winter, as it catches the flying leaves and weeds in the fall, and these with the shade afforded by the fence and drifted snow make a natural protection for the roots and canes. It is not the severity of the frost which determines the hardiness of a plant, so much as its ability to withstand freezing and thawing in rapid succession. For this reason I would have the small fruits planted at the north side of the garden, especially if it be the highest part, and if there is some kind of wind-break or protection, as this will cause the snow to drift and lie longer, making a natural covering, while the slope will drain the surface water quickly away, so that it does not form hard ice around the crowns.

If it were possible, I would prefer to have no fence around the garden, as it makes it much easier to keep clean. A fence is always a nuisance and waste of ground unless absolutely necessary; but if a fence is needed, have one that will not only keep out stock, but also the gardener's most aggravating enemy, the poultry. A scratching hen seems to have an instinct which tells her as soon as the seed has been planted, and which are the hills containing the choicest varieties.

In plowing the ground in the early spring, I think it is best not to plow more than is needed for the first planting, and to plow the remainder somewhat later, when it has become more dry and friable, as it will

not then become packed and hard again by the heavy spring rains. For the first planting the ground should be plowed and planted as soon as it can be got in order; the hardier vegetables will even stand a light frost, and while adapting their growth to the weather, will be ready to take advantage of the first warm spring days. I shall speak of the time of planting and sowing in the chapters devoted to the separate treatment of the different vegetables.

The following simple test will be of use to the novice in determining not only when to plow, but also when to cultivate and hoe the ground. Take a portion of the soil in the hand and try to press it into a ball; if it makes a ball and sticks to the hand it is too wet, while if it crushes hard it is too dry. In both cases, if worked in this condition, it will be left in a hard and lumpy state, that will take a long time to bring into good order. To be in good working condition the soil should crumble easily and finely in the hand, and should leave no dirt adhering to the fingers. It will not only give the best results when worked in this state, but it can also be done in half the time. Sometimes we cannot wait until the ground is in the very best order, as in a drought in summer, when it is needed for the second crop. In such a case it must be brought into as fine condition as possible by repeated harrowing and rolling; the latter is an operation too frequently neglected in the ordinary garden; every farmer knows the value of having the soil firmly compacted round the fresh-sown grain, and it is of equal value in every variety of seed sown in the garden. Where there is not

room for the roller to be used after sowing a row, I always have it pressed in by the broad sole of the gardener's boot, which nature usually provides shall be of generous size. It is even more important that the soil should be firmly pressed around the roots of newly-set plants, as if this is not done the first heavy rain uses the roots as water courses, and deprived of contact with the soil, the roots rot off and the plants are stunted or die.

Among the first things to be planted in the spring are the small fruits, such as grapes, blackberries, raspberries, currants, strawberries, etc. These should all be in the kitchen garden, and with them the rhubarb and asparagus beds, where they can and will be cultivated as well as the vegetables, the soil kept loose and free from weeds, that they may devote their energies to making strong canes and bearing fine fruit, instead of wasting their strength in a continuous battle for life with grass and weeds, leaving them an easy prey to insects and disease. Those who have never given them this thorough cultivation will be surprised at the large crops and superior quality of the fruit that can be raised under these favorable circumstances. These fruits, when once planted, with the exception of strawberries, last for many years if well manured, trimmed and cultivated. They should all be at one side of the garden, where they will not be in the way of working the garden with the large plow in the spring and fall, but should have their own plowing with the small plow, two to four inches in depth, spring and fall. In the fall plowing the furrows should be turned toward the row, which will

bank them up slightly and afford additional protection through the winter. In the spring this ridge can be worked down level again with the plow and cultivator, the dirt from around the crowns being drawn away with an ordinary hand hoe.

In planting the rows in the spring, the width of the cultivator and swing tree must be taken into account. If the ground has been heavily manured the vegetables can be planted as closely as will admit of working, and allowing a good supply of light and air to the roots, excepting melons and other vines, which should have plenty of room in which to spread and sun themselves. Thus, peas, beets, bush beans, etc., can be sowed as closely as two and one-half feet apart, while corn, pole beans, etc., which grow as high as the horse's sides and the cultivator handles, should have the rows four or four and one-half feet apart, not only to allow of working but to admit of the sunshine and air penetrating to the roots.

WHAT TO GROW.

ASPARAGUS.

This is the earliest vegetable to be ready for use in the spring, excepting those that have been forwarded under glass. While it is quite hardy and withstands much ill treatment, nothing will better repay careful culture and generous feeding. One row across the kitchen garden would make a liberal supply for an average family. The seed should be sown where the row is to stand, and the young plants thinned out until they stand one foot apart in the row. This should be done as soon as they are three or four inches high and well started; if left longer it will be a very troublesome job. These young plants should have every encouragement of manure and cultivation, to make as strong a growth as possible; the stronger and faster they grow the better will be the size and quality of the shoots when old enough to cut. No shoots should be cut until the third spring after sowing, and then should not be cut too long the first season. The fourth and succeeding seasons it may be cut from the time the first shoots appear until the first peas and lettuce are ready to take its place on the table. Then it should be well worked and allowed to attain its full growth, that strength

may be stored in the crowns to furnish the shoots for the next season's cutting. As soon as the tops begin to yellow, and the berries to ripen in the fall, it should be mowed off close to the ground and the tops burnt, taking care that all the seeds are consumed; if left on the plants all winter the seed becomes scattered, and, owing to its capacity for sending up shoots, it is a very difficult weed to exterminate. If you do not wish the labor of sowing the seed and tending the young plants, a year can be gained by purchasing the plants. The one-year old plants are preferable unless the older ones have been transplanted each year, as they are gross feeders, and become stunted if allowed to crowd each other while young. To produce the large, fat shoots, it is necessary that the seed shall have been saved from the strongest shoots obtainable, and the plants fed constantly. The best way is to cover the crowns, after the ground is frozen in the fall, with as much manure as can be spared, and work it down to the roots in the spring as soon as it can be forked in; or, if there are several rows, the manure could be placed on them thickly and the soil ridged over it for the winter by throwing up a couple of shallow furrows with the plow; this to be worked down with a sharp harrow in the spring. As soon as it is dry enough in the spring, the soil and manure of the bed should be lightly forked over with a manure fork and the surface raked fine; the reason for using the stable fork is that the tines are slightly curved, and if the handle is held in a nearly horizontal position the bed can be dug down to the roots, and the fork will slide right over the tops of the crowns without

injuring them. Where more than one row is desired they should be planted about three feet apart, to admit of cultivation and free access to the beds for cutting. An advantage in sowing the seed is that the crowns are naturally established at a proper depth. In planting the crowns obtained from the nurseryman they should be set at a depth of three or four inches at the most; not one foot under the surface, as is the common practice of truckers. Market gardeners cut the shoots as soon as the tips appear above the surface, so that their shoots are blanched for their whole length; but they do this at the expense of the table quality, as only the tips are edible in this way, and even these taste very much like old hay to any one who has been accustomed to the richness and delicate flavor of shoots cut at the surface when they are from three to four inches in height; this method has also the advantage of not destroying the young shoots just coming up, as the stalks are only cut an inch or so underground, and the knife only reaches the one intended to be cut. If the appearance of the blanched asparagus is desired, it can be much better obtained (that is, with less sacrifice of quality) by placing four or five inches of hay, straw or other litter over the crowns, which can be pushed away from the stalk when cutting and easily replaced. There is another strong reason for not following the deep planting, as usually practiced, and that is, in having your crowns so much nearer the surface they feel the warming and growing influence of the sun sooner in the season, and you are able

to have your asparagus for cutting a full week earlier than your neighbor who plants deep.

VARIETIES OF ASPARAGUS.

As mentioned above, this succulent is capable of great improvement by careful selection of seed from the best stalks. The old Purple Top variety is no longer grown, its place having been taken by the larger shoots and better quality of the variety known as Conover's Colossal. This latter, however, has been propagated so extensively and with so little care that it is now almost impossible to obtain seed or plants that will produce the splendid shoots of the original stock. Of the new varieties Barr's Mammoth seems to be the most promising, and as grown in some fields in the vicinity of Philadelphia produces shoots which will average nearly an inch in diameter.

BEANS.

The first planting of snaps or dwarf bush beans can be made when the first planting of peas and beets are sown, but will not do as well nor produce beans of as fine quality as those planted about two weeks later, when the weather has become warmer and more settled. These yield very abundantly, and a drill fifty feet long will produce as many as can be used in a large family. While planting in a drill, for the sake of convenience and quickness in planting, the seed should be dropped in hills about ten inches apart and five seeds to a hill. If the beans are kept picked closely, the plants will continue longer

in bearing, and they may be had throughout the season if successive plantings are made, though the pole snaps are to be preferred through the summer and fall, for their greater bearing qualities and the ease of gathering them. In both the bush and pole snaps, care should be taken to secure varieties that are entirely stringless, as they are not only much easier to prepare for use, but are much more tender. The different "Wax" varieties are very fine, but the bush beans of this class have not done well in this locality for the last three seasons, the pods being covered with a species of black spot or rot that spoils fully two-thirds of them.*

The pole beans should not be planted until the ground is thoroughly warmed in the spring, or until the thermometer stands over 60° all night. It is quite common to plant these with poles 8 to 9 feet in height. I think this is a mistake, as no ordinary picker can reach higher than about six feet to advantage, and as the vines grow to the tops of the poles before commencing to fruit, both beans and time are lost. The poles should be set in rows four and one-half feet apart and two and one-half to three feet apart in the rows. Two hundred poles of Limas will furnish an ample supply throughout the season, and will ripen a bushel of dried beans for winter use as well. Twenty-five poles will furnish an ample supply of

* Miss Moll says that this rusting can be prevented by only hoeing the beans when the soil is dry. We would also particularly recommend *Burpee's Perfection Wax*, a fine new variety, that has so far proved free from rust.—ED.

snap, though we allowed one row across the garden in the diagram given, the surplus being allowed to ripen for winter use. Where the saving of room is an object and the ground has been well manured, these pole snaps can be planted in the hills of corn, and allowed to use the stalks as poles; they will produce a good crop, but not nearly so many, nor are they as easy to pick as when grown on the poles. For this purpose they should be planted with some strong growing variety of corn, such as Stowell's Ever-green or other late variety.

The white soup bean, that is dried for winter use in various ways, including the famous "Boston Baked Beans," is generally grown by dropping one or two hills between each hill of corn, and instead of picking them, the whole plant is pulled up in the fall, and the beans thrashed out with a flail when dry. For Limas and pole snaps, the poles should be set by the aid of the garden line, and where any pole is bowed or crooked it should be planted so as to bring it in line with the row, lengthwise, as nearly as possible, that they may present an orderly appearance. In setting the poles, make a hole from one to two feet deep by driving the sharp end of a crowbar into the ground, place the butt end of the pole in this hole and ram it firmly in its place; then put one or two shovelfuls of compost around the base of the pole, and with a sharp steel rake make a hill of fine dirt over the compost. Five or six beans should be planted to each hill, but if all grow should be thinned out to two or three. If the young plants do not climb the poles readily at the first start, they should be

trained up and tied till they begin to take hold for themselves. Be careful, in planting Lima beans, to push them into the soil with the eye down, for, as the first leaves are quite large and heavy, it assists them materially in breaking through the soil to plant them in this manner.*

The Limas may be brought into bearing somewhat earlier in the season by placing pieces of sod, cut four inches square and about three inches thick, grass side down, in the hotbed, and planting four or five beans in each piece ; if this is done in the latter part of March they will be of good size by the time it is warm enough to plant them out, which is done by planting the piece of sod at the base of the pole, in hills, as prepared for the seed. If the end of the vine is pinched off when it is about four or five feet up the pole, it will assist the lateral shoots in blooming early, and consequently produce beans earlier, though, like all forcing methods, it will, to some extent, lessen the vigor of the vine, and most likely, to some extent, the amount of the crop.

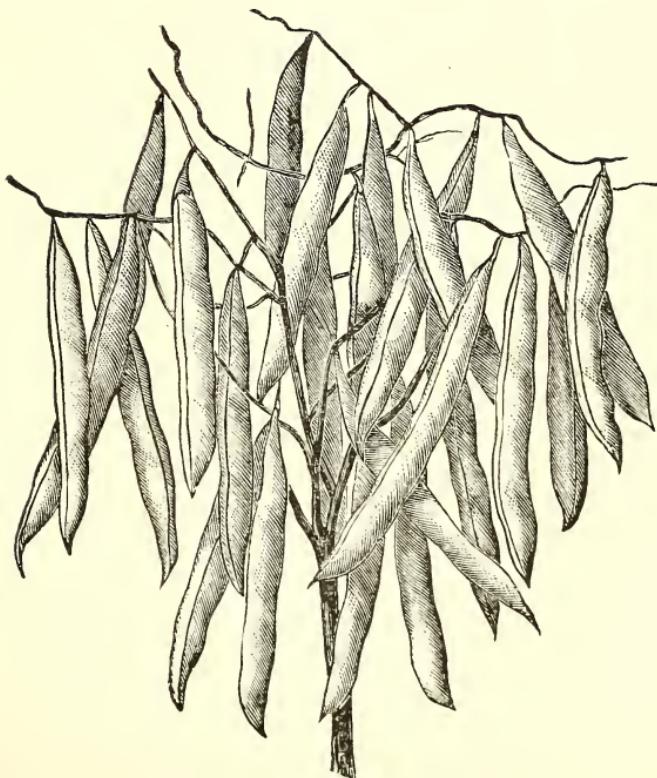
BUSH BEANS—*Golden Wax.*—This is one of the best bush beans; it matures early; the pods are of very handsome appearance, brittle and entirely stringless; it is a good bearer and makes an excellent shelled bean for winter use.

Best of All Dwarf Bean.—This is a green-podded bean, and is probably the best for the first planting, as it is not only very early but also very productive;

* See the method of covering the seed of Lima beans described by Miss L. M. Moll, and our note on the same.—Ed.



BEST OF ALL DWARF BEAN.



CHAMPION BUSH BEAN.

the pods are six inches long, entirely stringless, very fleshy and rich flavored.

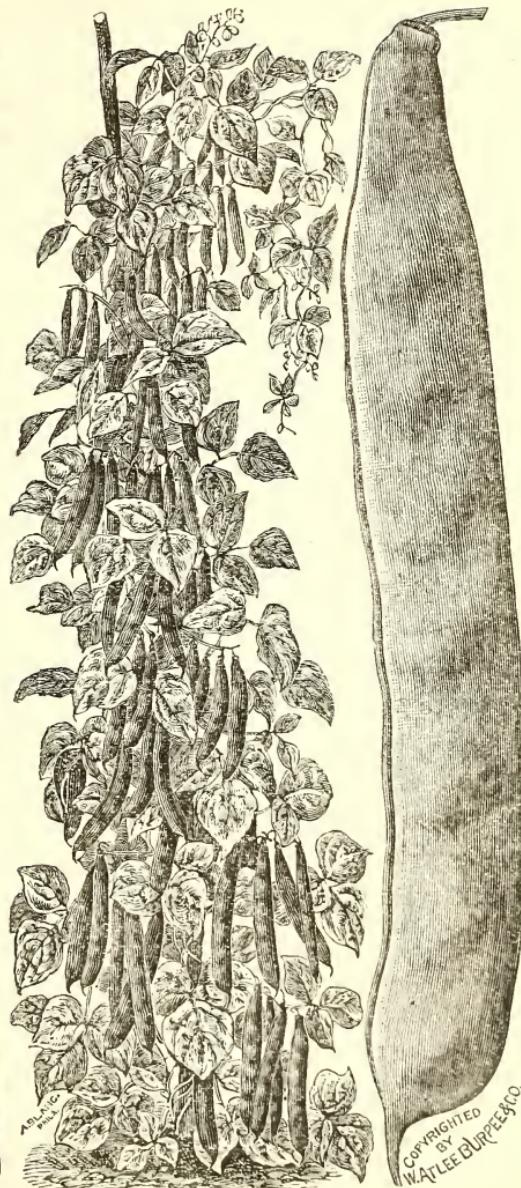
Champion Bush Bean.—This is a strong grower, attaining about fifteen to eighteen inches in height, and an immense cropper. The beans can be used as string beans in the green state, but its chief quality lies in the superiority of the beans when dried, and the large crops which it produces when grown for winter use.

POLE BEANS, SNAP VARIETIES—*Golden Wax Flageolet.*—This bean is of recent introduction, and is worthy of all the praise that has been bestowed upon it; it is a tremendous bearer, and is almost as early as the dwarf wax varieties, the pods are much larger, being seven to eight inches long, round and very fleshy; they are entirely free from strings and of the finest quality. Unlike the other pole beans, it begins to produce beans at the bottom of the pole as soon as it starts to climb; and if these are used as they mature, it will continue in bearing the entire season.*

White Creaseback, or Best of All.—These for early and the *Lazy Wife's* for late are the best of the green-podded pole beans. The pods are about six inches in length, thick fleshed, and of very fine quality. The Creaseback is very early and matures its crop in a short time, thus making it a very profitable

* We would also particularly recommend *Burpee's White Zulu*, a new variety of 1888. It is one of the earliest of pole beans, immensely productive, and the broad, handsome, white pods, eight to ten inches long, are of the choicest quality.—ED.

CREASE BACK POLE BEAN.



LAZY WIFE'S POLE BEAN.

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variety for market. Both varieties are very productive, entirely stringless, and of superior flavor.

LIMAS—*Extra Early Lima*.—This variety matures very nearly as early as the Small Lima, while the beans are more nearly the size of the late Lima; the quality is very fine and the quantity large, as it bears the pods in clusters of four, with four to six beans in a pod.

Dreer's Improved Lima.—This variety is early and very productive if measured in the green state; the pods are smaller than in the ordinary Lima, but the beans are very plump, and are so close together in the pods as to crowd against each other. As a green bean it is very early, and shells out more quarts to the basket of pods than the larger varieties; but the quality is not as fine, and in the dry state the beans shrivel up till they are only about the size of dry bush beans, and are not nearly so good as the other varieties.

King of the Garden.—This is a new variety, in which the green beans are of unusual size and very fine quality. I have seen half an acre planted with this variety which I am sure had at that time more than twice the quantity of beans that could be grown on the same ground of the ordinary kinds; vines were loaded with clusters of pods seven to eight inches in length, and it was no rarity to see them with five very large beans in a pod. From its great productiveness and the fine quality of the beans, it deserves the first place among the Limas.

BEETS.

Seed of these should be sown when the first planting is done in the spring. They may be had still earlier by planting the seed in a hotbed while the ground is still frozen, and transplanting them to the garden a week or so after the cabbage and lettuce have been planted out. Care must be taken in transplanting the young beets, that the tap-root does not get broken, or it will make a number of fibrous roots instead of the large, smooth globe desired for the table. When the seed is well up, the plants should be thinned out until they stand six or ten inches apart, as the size of the variety demands. A second sowing should be made about June 1st, and the main sowing about the 15th of July or 1st of August, to raise roots for winter use. These frequent sowings are necessary to have the beets of fine quality; as the roots get older and larger they become "woody," or hard and fibrous, and exceedingly tasteless. Where the season is short, or there are prospects of a dry fall, the second sowing should be large enough to produce the winter crop, as the later one may fail to mature in time. The beets may be stored and the flavor retained by the method described for pitting turnips, and will keep in good order until spring.

The Bassano and other light beets are of quick growth and are tender and palatable while young, but are of coarse texture and not nearly so fine in appearance when cooked as the blood beets. The blood beets retain their deep, rich color, while all the light-leaved or light-stemmed varieties are colorless, or nearly so, when cooked. It certainly adds to the

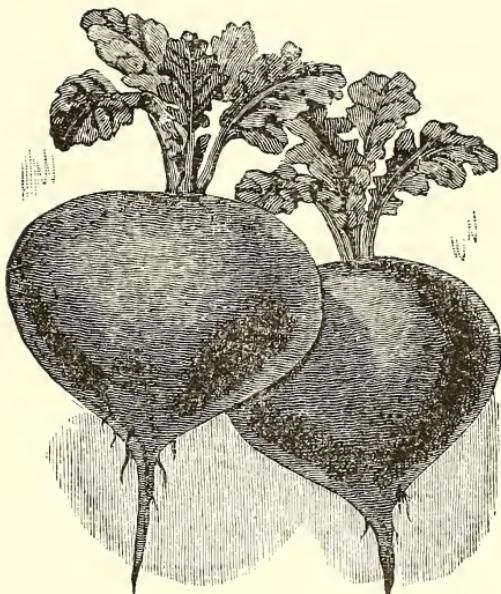
attractiveness of a dish for the vegetable to have a handsome appearance when cooked.

The seed should be sown in drills, from twelve to eighteen inches apart, if to be worked with the wheel hoe; if for horse culture, two and a half to three feet will have to be allowed between the rows. The ground should be raked clear of clods and made as fine as possible. A drill is made by drawing the rake or hoe handle along the line. The drill should be about an inch in depth and the seed should be dropped about two inches apart, thinning out to six or eight inches apart when well started, and if it is desired, the thinnings can be transplanted to another row. If no small roller is at hand, the drill can be covered and packed by the same operation, by removing the line and shuffling along the row with the feet placed in a V, the forepart of the foot drawing in the fine soil while the heels at the point cover and press the dirt down upon the row; the foot, of course, is only moved a few inches at a time, but with a little practice the rows can be covered in this manner quite rapidly.

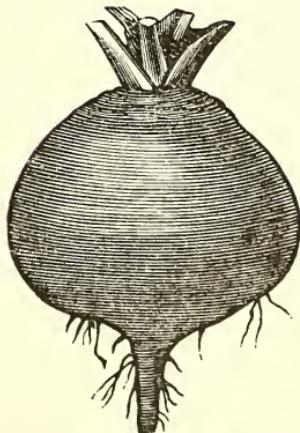
VARIETIES OF BEETS.

ECLIPSE.—This is a very early beet, of quick growth and very fine quality. As the leaves of this variety are small and the stems short, they can be grown quite closely together. The roots are perfectly smooth, regular, globe shape, blood-red skin and flesh, fine grained and very sweet when cooked.

EDMAND'S EARLY TURNIP.—This variety is turnip-shaped, that is, tapering more gradually below the



EDMAND'S EARLY TURNIP BEET.



BURPEE'S IMPROVED BLOOD TURNIP BEET.

shoulder than the Eclipse; the foliage is short and stocky, enabling a heavy crop to be grown, as they can be grown as closely as six inches apart; the flesh, of a deep blood red, is of the finest quality.

BURPEE'S IMPROVED BLOOD TURNIP.—This beet attains quite a large size and is very smooth and regular in appearance; the flesh is deep blood red and of fine quality, whether eaten in summer or stored for winter use; it is one of the best varieties for the latter purpose, and should be sown as described for the winter crop.

CABBAGES.

Of this vegetable two distinct crops are raised in every garden, while many gardeners, by successive sowings and the use of several varieties, have them fit for use constantly from early spring until fall, and throughout the entire winter by storage. In the ordinary garden the same result may be obtained by planting larger quantities of the early and summer varieties, and cutting them as wanted for use, as most of them will stand the whole summer without bursting or going to seed, and by early fall some of the winter cabbage will be large enough for use.

EARLY OR SUMMER CABBAGES.—The seed for these should be sown in a hotbed from the 1st to the 15th of February. As soon as the plants are large enough to set out they should be given plenty of air, and should be gradually hardened off until they are able to stand the cool nights without protection; but they should not be allowed to freeze. Treated in this way they will be ready for planting out as soon as the

ground can be worked. In making this sowing I would have it of two kinds—some of a small, hard-heading, early variety, and about twice as many of a larger-heading summer kind. These latter are described as second early in the seed catalogues.

These early cabbages need very little care except to have frequent and thorough cultivation, as they are comparatively free from insect pests as long as they make a healthy growth. If attacked by the black fly or green worm, they should be dusted with land plaster or slug shot early in the morning, while the dew is still on them. The soil around these and all other crops that depend on quick growth for their superior qualities, must not only be cultivated, to kill the weeds, but must be kept loose and well stirred, to admit the air to the roots of the plants; it must not be allowed to lie heavy and packed after dashing rains, but should be stirred up as soon as dry enough. The rows may be as close as can be worked with the cultivator, say about three feet, and the plants about one and a half feet apart in the row, or even closer, if the variety grown makes but small heads.

LATE OR WINTER CABBAGE.—As soon as the ground becomes warm in the spring, or early in May, a seed bed should be made and sown with the late varieties of cabbage and celery, or the seed may be sown in drills in the garden; the seed being sown in very thinly, so as to produce plants standing about half an inch apart in the row. Where it can be done, it is best to sow the seed in a special bed or cold frame, where they can be watered and nursed to a good size by the time they are wanted for planting.

The Flat Dutch and Drumhead types are the best for this planting, though many prefer the Savoys, claiming a superior delicacy of flavor, on account of their having more leaf surface to the number of ribs or veins; they are not, however, nearly such sure head-ers, nor are they as good keepers when buried.

It is important to get the seed sown early, that the plants may be had of good size by the middle of June, though they will make a partial crop if planted as late as the middle of August. As these varieties make larger heads than the summer cabbages, they cannot be planted so closely; the rows should be 3 to $3\frac{1}{2}$ feet apart, and the plants 2 to $2\frac{1}{2}$ feet apart in the rows. These can be planted and grown between the rows of early peas, corn or potatoes; but I would prefer to wait until the first crop of corn be cleared off the ground, as it can then be brought into much better condition. It adds greatly to the labor of har-vesting the first crop when the ground is so closely planted, and the soil is apt to become hard and packed before it can be cultivated again.

When possible, the young cabbage plants should be set out directly before or after a good rain, but if there is no prospect of rain, they should be planted in the evening and a tincupful of water should be poured in each hole before the plant is set in; then draw the dry earth up around the stem and pack firmly around the plant; this will enable them to withstand at least a week of dry weather. If the drought should con-tinue longer, or they do not come up fresh in the morning after a flagging day, they must be watered in the cool of the evening, when the plant will have

the benefit of the water all night. It is waste of time to water them while the hot sun is shining, unless they can be shaded with papers, old pans, etc.

As soon as they become well established, the soil around them must be carefully loosened and cultivation begun. To obtain the best results they must be cultivated frequently and deeply. It is a common sight in some gardens to see the cabbage with stems two feet high and a small bunch of wormy leaves at the top ; a closer examination will show that the soil is hard and trampled, and that the plants have been left to grow as best they may, while in the well-cultivated garden the stems are short and the heads are large and solid.

The young plants of late cabbages are generally infested, while in the seed bed, with a small black fly, which greatly checks their growth, and sometimes entirely destroys them. These can be gotten rid of, or better, entirely avoided, by the application of dry road dust, soot, slug shot, or land plaster, dusted on the young leaves early in the morning, while the dew is still on them ; this should be repeated every two or three mornings until the fly is exterminated and the plants have grown to good size. When the plants have been set out and are nearly ready to head, the green cabbage worm makes its appearance, and if fine marketable heads are desired this pest must be destroyed. Many remedies for this are given, most of which are ineffectual. It is best to sprinkle well with tar water or alum water, taking care to get it well down into the centre of the loose leaves, using an ordinary watering pot for the purpose ; if a garden

syringe is at hand, it can be thrown into the plant much better than by sprinkling. To make the tar water, the tar is put in a barrel of water and well stirred; then, when it has been allowed to settle, the water from the top is dipped off and used. It should be strong enough to have quite a decided taste. The alum may be dissolved in the watering pot, about one tablespoonful to the gallon, and stirred till dissolved. See that the solution gets well into the centre of the loose leaves just below the head, as this is the favorite place of attack by the worms.

The cabbage is quite hardy and will stand considerable frost in the fall without damage, being rather improved in quality by it. By the third week in November they should be put in pits or the vegetable cellar; or, where these conveniences are not at hand, they should be pulled up, root and all, the outside leaves wrapped closely around the head and stood side by side, on their heads, on a well-drained piece of ground; they should be placed in a long row two or three heads wide, and where a good many are to be buried or gotten out at once, two additional rows may be placed on top of these, as shown in the illustration.

Dry soil is then thrown on these heads to the thickness of five or six inches and the roots left sticking out of the top; this covering should be firmly packed, to prevent the entrance of water, and a small gutter should be dug round the heap to carry it off. If, after the cold weather has set in and the ground is slightly frozen, the heap is covered with three to four inches of corn fodder or litter, it will prevent the cov-

ering from freezing so hard, and will greatly lessen the work of getting out the heads when wanted for use. When heads are wanted, one end of the bank is opened and as many taken out as are desired; the open end is then carefully covered over with soil. Too many should not be taken out at once, as they retain their flavor better when buried in this manner

FIG. 1.

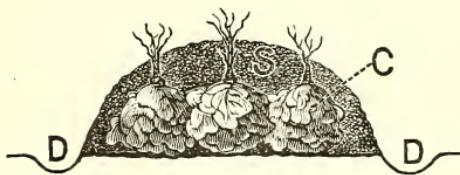
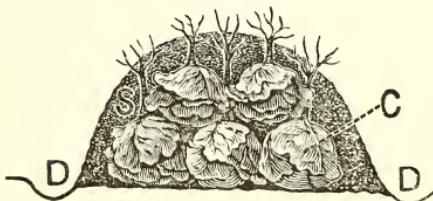


FIG. 2.



Illustrations showing the manner of storing cabbage for winter use. Figure 1 showing three rows of heads and Figure 2, five rows. C. Heads of cabbage. S. Soil banked over the heads. D. Drainage ditches to carry off the water.

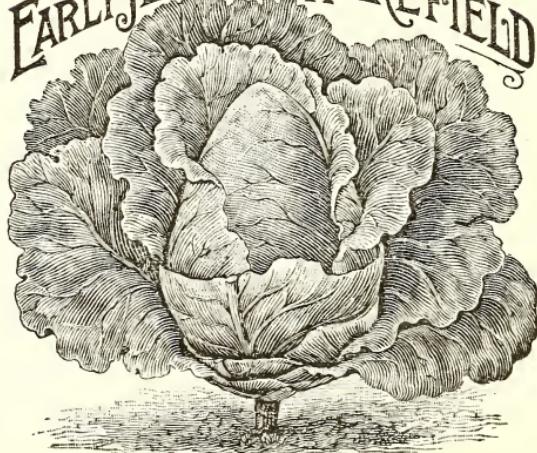
than when kept where they are exposed to the open air. If it is desired to save some of the best heads for seed, the roots of the plant must be buried as well as the top; they can then be replanted early in the spring and a cross cut made in the top of the head to assist the flower stalks in bursting through, as the heads

EXTRA EARLY EXPRESS



EXTRA EARLY EXPRESS CABBAGE.

EARLY JERSEY WAKEFIELD



EARLY JERSEY WAKEFIELD CABBAGE.

are sometimes so tight that they will rot before bursting.

EARLY VARIETIES—*Extra Early Etampes*.—This cabbage is the earliest heading variety that I have ever grown. The heads are small but round and very solid, and it is ready for use nearly two weeks ahead of the other early varieties.*

Early Jersey Wakefield.—This has long been the chief favorite for the general crop of early cabbage, and is deservedly popular, as it is sure to head when the seed is good; the heads are of good size and shape, and the quality is fine.

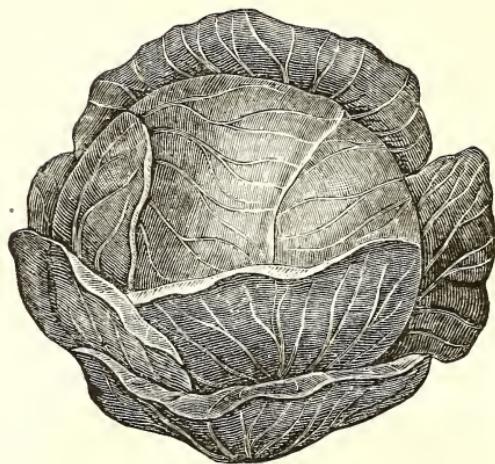
Early Summer.—This succeeds the Wakefield, and has heads about twice the size of the latter; they are round, very solid and slightly flattened on top; it has few outside leaves and can be planted closely; this variety matures about two weeks later than the Wakefield, and a month after the Etampes.†

VARIETIES OF LATE CABBAGES.

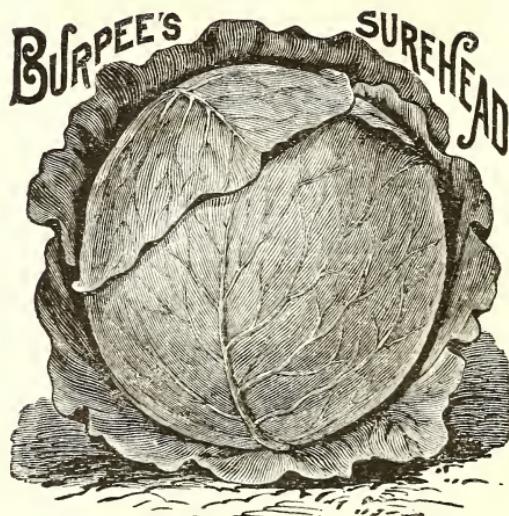
At the head of these I would place BURPEE'S SURE-HEAD, which has done so well for me since I began

* The *Extra Early Express*, a new variety, just introduced from France, and seed of which we distributed for trial this year, has proved *eight to ten days earlier* than the Etampes. The heads do not average quite as large as the Etampes, but are of equally as good quality and of the shape shown in the illustration on page 60.—ED.

† For years, Mr. Vandergaw, a large cabbage grower of Long Island, has had a *second-early* cabbage fully as early as Early Summer and with much larger heads. This is known as the *Vandergaw Cabbage*, and is only now being generally introduced. The heads are very large and solid, of the shape shown in the illustration on page 64; it is a good keeper, and altogether a good variety, also, for winter use.—ED.

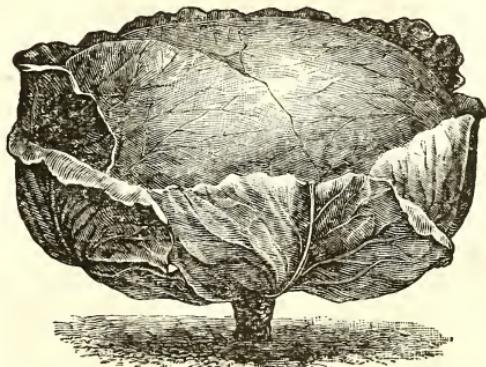


EARLY SUMMER CABBAGE.



BURPEE'S SUREHEAD CABBAGE.

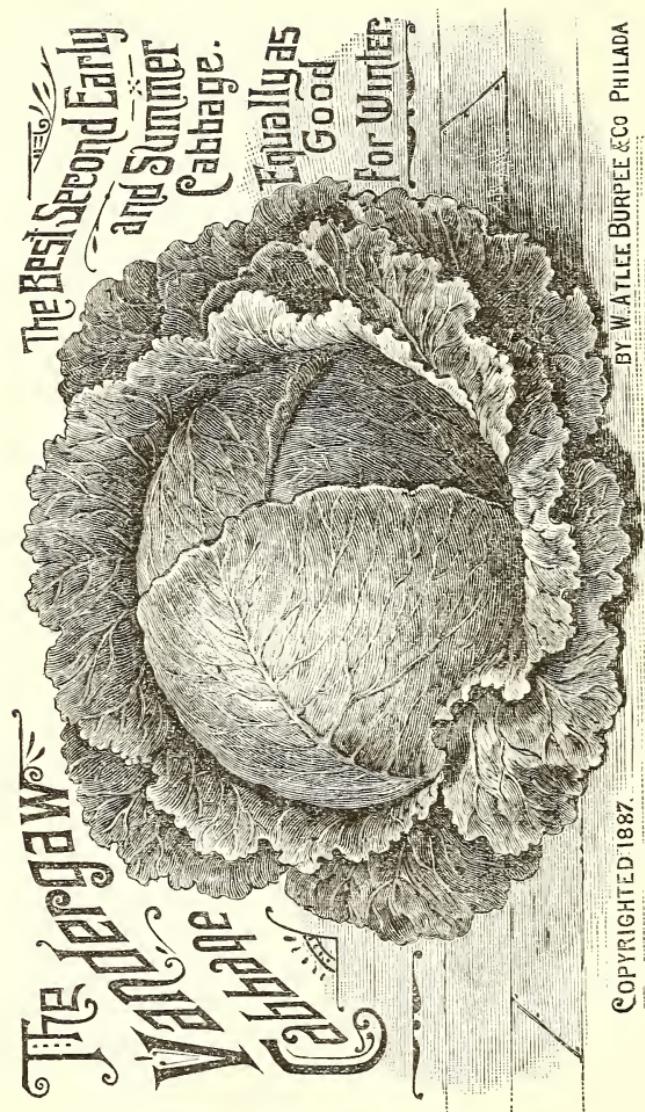
planting it, never failing a single season, that I now plant my whole crop of it, instead of planting two or three kinds as formerly, to guard against poor seed or a bad season. It is an improved type of the Premium Flat Dutch, to which it is superior in the evenness and regularity of its heads and the "sureness" of every plant to form a fine head. With me the heads average larger than the Flat Dutch, are rather more rounding in shape and are of the finest quality.



BURPEE'S SHORT-STEM DRUMHEAD CABBAGE.

SHORT-STEM DRUMHEAD.—This variety produces on extra short stems, only a few inches in height, very large solid heads, often twenty-five pounds in weight. It is from this kind that the very large heads seen at the county fairs in the fall are grown, and where the ground is heavily manured and well cultivated enormous crops of this variety can be grown; it is of fine quality, very solid and an excellent keeper.

DANISH BALL HEAD.—This variety has only been



BY WATLEE BURPEE & CO PHILADA

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recently introduced, but bids fair to take a leading place as a winter variety; the heads are quite round and very solid; they are of medium size and very handsome appearance, which make it a good market variety, while the quality fully equals its good looks.

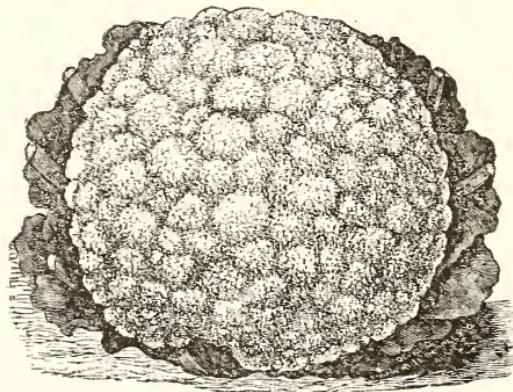
CAULIFLOWER.

The culture of this vegetable is the same as that for cabbage, in most respects, but it is not a certain crop in our changeable climate and hot, dry summers. It likes plenty of moisture, and if placed in a rather wet location or in a bed where it can be frequently watered, it will be much more certain to produce fine heads. Its superior quality and the high price that good heads command make it a most desirable crop to grow wherever it will do well. I have always found the short-stemmed, extra early varieties the best ones to grow, and as in the ordinary season but about half of them produce heads under ordinary garden culture, the rest of them maturing throughout the summer and fall, it is almost a continuous crop. The seed should be sown as early as possible, in the hotbed, and great care should be taken that the plants do not become either stunted or drawn, as none but the strong, healthy plants will produce good heads. It will greatly improve the appearance of the heads if some of the broad outside leaves are broken half through the stems and the tops bent over the heads while forming. This will blanch and keep them of that pure whiteness so attractive in this vegetable as grown by the market garden-

ers. The heads should be cut for use or sale as soon as they have reached their full size and before the buds begin to uncurl, as this spoils both the appearance and quality of this, the finest and most delicately flavored of the cabbage family.

VARIETIES OF CAULIFLOWER.

EXTRA EARLY DWARF ERFURT.—This is the best strain for general use; there are usually two or more grades of this offered in seed catalogues, but the best



BURPEE'S BEST EARLY CAULIFLOWER.

should always be purchased, even if you can only buy a single packet; by taking extra care of it you can make every seed count. This variety is quite early, has short stems, and makes good-sized heads of the best quality.

EARLY SNOWBALL.—This variety is quite early and makes fine large heads, of handsome appearance.

BURPEE'S BEST EARLY.—I have only grown this one season, but found it all that it was represented in earliness and good heading quality. Owing to a drouth early in the spring, the heads were not of large size; the quality was fine, and I think it bids fair to be one of the leading varieties.

CARROTS.

These are ordinarily little used as table vegetables, but will be found very palatable as an ingredient of soups and stews. They are very easily grown, the seed being planted in drills and the plants thinned to six or eight inches apart. The seed should be sown in April or May, and they will be ready for use early in the summer. For winter use they should be stored in the manner described for beets and turnips; they will retain their quality throughout the winter, and form a pleasant variety in the winter supply of vegetables. The rich yellow and red-fleshed varieties are the most popular, and retaining their bright colors when cooked, lend an attractive appearance to the dish of which they form a part.

VARIETIES OF CARROTS.

DANVERS HALF-LONG ORANGE.—This is claimed to have the greatest bulk with the shortest length of root, and is a remarkably heavy cropper. The root is of a rich, dark orange color, and grows very smooth and succeeds in all soils. It is quite a favorite market sort.

SHORT HORN.—The flesh of this variety is very

fine grained, of deep orange color and superior quality. The roots do not penetrate deeply, and the top is small, which allows of their being planted quite closely.

EARLY VERY SHORT HORN, or GOLDEN BALL.—The earliest variety; the roots are round, turnip shaped,



of small size, deep color, and the quality is of the best.

OX HEART.—This variety is of large size, the roots being seven to eight inches in length and three to four inches in diameter at the top; it tapers

gradually down to one and one-half to two inches at the bottom, making very little waste in preparing it for the table. It is of fine quality, while its size will render any surplus valuable for feeding to the stock.

RED SAINT VALLERY.—This is a large late variety and makes a good kind to raise for winter use; the roots grow ten to twelve inches in length and measure two to two and one-half inches in diameter at the top, tapering gradually to a point at the base. It should have deep cultivation to produce the finest roots. The color is a deep orange red and the quality is very fine.

CANTALOUPE, OR MUSK MELON.

These are universal favorites, and too frequently are not grown by the kitchen gardener, who labors under the idea that they must have a sandy soil in some particularly favored section, and that they require great skill to grow them. If a variety suited to your soil is planted and given the same amount of attention and careful cultivation as the rest of the garden receives, melons may be had in abundance from the first of August till frost comes in the fall, though when the first cool nights come they lose their fine flavor. If the garden has a southern slope, that will be the place for the melons and other warmth-loving vegetables; but they will do almost as well in the level field. The rows of hills should be five feet apart and the hills at least four feet apart in the row, to allow the vines plenty of room to run. It is a good plan to make the hills break joint, as they

will then cover the ground to better advantage. When the line is set, a hole should be scraped with the hoe or shovel where the hill is to stand ; this should be six inches deep and about twelve inches in diameter. Compost is then shoveled in, two rows being done at once ; two or three shovelsful are put in each hill. The dirt thrown out in making the hole is then carefully made into a hill over the compost by using a sharp steel rake, care being taken to remove all stones and hard lumps of dirt. The seed is then scattered on the top of the hill, generally from twenty to thirty seeds being planted in each hill, that there may be an ample supply for the insects and yet leave a good stand. They should be thinned out gradually, extra ones being left in until they are at least a foot in length, as the insect pests are both numerous and destructive.

The hills should not be made until it is time to plant the seed, or they will get packed and too hard for the young roots to penetrate. When the seed has been planted on the hill it should be covered with about half an inch of fine soil, sifted and crumbled on with the fingers, and the whole top patted down with the palm of the hand. The seed should be planted as soon as the ground is thoroughly warm in the spring and when the temperature does not fall below sixty degrees at night. The melons will commence ripening about August 1st, and two rows across the garden should yield from one half-bushel to one bushel daily if the variety planted is of the small Netted Gem or Jenny Lind type. These small, round melons, of the size of a croquet ball, are very

prolific, and if carefully grown, the quality is very fine. Some prefer the larger melons, which fill the basket more quickly, but in my experience the small ones have been so much more prolific that the yield has been almost double in bulk on the same amount of ground. The melon rows should be gone over early every morning while ripening, as they should not be allowed to become yellow on the vines. The quality deteriorates very rapidly when allowed to ripen in the hot sun, so that they should be picked while still green. The right stage for picking can readily be told by examining the point where the stem joins the melon; as soon as the stem begins to crack away from the melon slightly, or when the little drops of red juice form round the base of the stem, it is time to pick the melon. When picked, they should be put in a cool cellar or spring house until wanted for the table.

Seed may be saved from the largest and finest-flavored melons; but if your garden is on heavy soil, or if two or three varieties are grown near together, it is best to procure fresh seed from some melon-growing district every year.

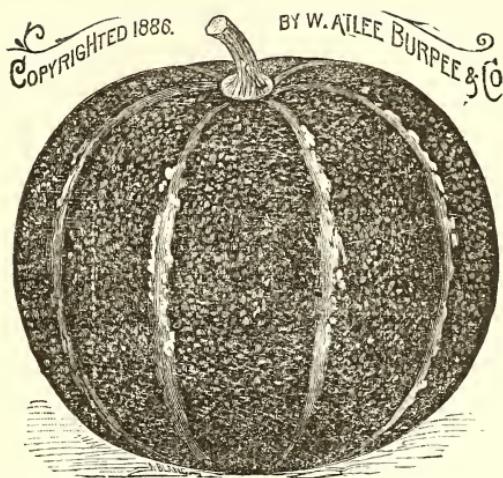
The ground between the hills should be cultivated frequently, as long as it can be done without interfering with the vine; the soil in the hills should be kept loose and drawn up around the vines with the hoe. When the vines have grown too long to allow the passage of the cultivator, the patch can be kept clean by pulling out the large weeds by hand, which can be done very quickly after a good rain. The dense shade caused by the luxuriant vines will cause

the small and low-growing weeds to rot off. While the vines are still small, it will be necessary to dust them every few mornings with road dust, soot, plaster or slug shot, to destroy the flies and striped bugs that infest them. When healthy young vines suddenly wilt and droop in the hot sun without apparent cause, dig around the root of the plant with the fingers or a stick until the grub is found which has cut the plant off underground. He should be searched for and "made an example of" as soon as the first vine is discovered to be flagging, or he will proceed to eat the whole hill.

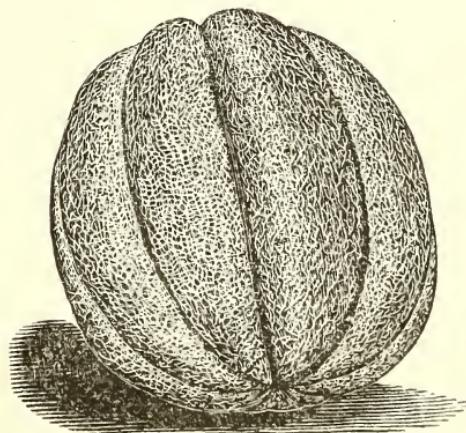
VARIETIES OF MUSK MELONS.

BURPEE'S NETTED GEM.—The finest as well as the earliest of all the small-fruited varieties that I have tried, and where a variety of melons is not particularly desired, it will furnish a generous supply of fine-flavored fruit from the first ripening until killed by frost. It is a very good keeper, retaining its good quality for nearly a week after picking, if kept in a cool cellar. This is often a valuable characteristic in the latter part of summer, as several warm days furnish two or three baskets in the cellar, which keep up the supply if the warm spell is followed by cool or cloudy days, when the melons on the vines do not ripen readily. This variety is thickly netted, the meat is thick and solid, and they run as even in shape and symmetry as a set of croquet balls, which they also resemble in point of size.

EMERALD GEM.—This variety has the small size



EMERALD GEM CANTALOUE.

16 $\frac{1}{4}$ -lb MONTREAL NUTMEG MELON—ENGRAVED FROM A PHOTOGRAPH.

and prolific bearing qualities, with the handsome salmon-colored flesh, that originated in the Surprise Melon some years ago. Too much cannot be said of the *quality* of this melon, as I do not think there is another variety that approaches it in flavor. The vines are strong and healthy in growth and well set with melons near the hills, and the fruit is early in ripening. The melon has a thin, green rind and very small seed cavity, almost the entire body of the fruit consisting of the rich and luscious meat.

MONTREAL GREEN NUTMEG.—A handsome variety, in which large size, regular shape and fine appearance are combined with thick flesh of the finest flavor. In shape they are nearly round, slightly flattened at the ends, very deeply ribbed and heavily netted. These melons have been grown to over thirty pounds in weight, and will average ten to twelve pounds in ordinary culture.

CELERY.

While one of the most troublesome vegetables to bring to perfection in the ordinary garden, this is one of the most desirable, as well as one of the most profitable, when well grown. The Michigan celery that is being shipped to our eastern cities in such large quantities does not seem to have lowered the price materially, but has crowded all the inferior and less finely-grown plants out of the markets, and the high express charges still guarantee a good profit to the near-by grower. When the ground has become fairly warm in the spring, a bed should be made in some

shady corner for the seed; if such situation is not to be had, the seed can be sown in a spent hotbed, cold frame or other convenient place, and can be artificially shaded with fresh brush or lath shades through the hottest part of the day. Celery is naturally a swamp plant, and to make a rapid growth should have the ground as rich as possible, and also as much water as possible, without making the ground heavy and sour. The soil should not be allowed to become dry or baked, and the weeds should be pulled out as soon as they appear. This bed, and, indeed, all other seed beds, should be made very rich with well-rotted manure; not with horse-stable manure or phosphate, as both of them are dry and heating, and in dry weather would stunt or entirely burn up the young plants. The seed should be sown in drills about six inches apart, to admit of working the soil with a narrow hoe, as the continued watering will harden the surface of the bed and check the growth of the young plants. When the plants are well up they should be thinned out so as to stand an inch apart in the drills, and if the plants are ready some little time before they are wanted for setting out, they can be made more stocky and stronger by shearing off about half of the tops.

When ready to set out, I run a double furrow where the row is to be—that is, the plow is run both ways in the same furrow, casting up a ridge of dirt on either side of a shallow trench; then in the bottom of this trench fine compost or well-rotted manure is placed to the depth of one to two inches, and some of the fine soil from the sides is drawn down over

the manure with a fine rake until the manure is covered about three inches. This will still leave a depth of about two inches below the surface, which will serve to draw and retain the rain water, or, in a dry time, can be flooded with a hydrant hose or irrigating ditch. Where the ground has been heavily enriched or the celery is planted as the first crop—that is, when no early vegetable precedes it on the same ground—no manure is used in the trench or furrow, which is plowed out in the same way, the additional depth assisting in the labor of earthing up for blanching. To obtain fine quality and appearance the plant should be pushed to as rapid a growth as possible from the time the seed is sown until the stalks are ready for use; if allowed to become stunted, the stalks will be knotty in appearance and bitter in taste.

For my own use and marketing I usually sow seed of two or three varieties, so that if one kind fails for any reason, I may still have a crop sufficient for the table from the other varieties, while if it is all good I have no difficulty in disposing of the surplus; this is the more easily done, as it occupies ground that has been cleared of early peas, corn, etc. Another point in not confining your planting to the one variety is that the handsome "Self-blanching" varieties are not good keepers, and as the older kinds take a long time to whiten, and a good deal of cold weather to develop the fine flavor, they are about ready for use when the early kinds are gone.

While celery is raised as a second crop and has always been considered to require frost to develop the fine nutty flavor, at least one row in the garden should

be planted with a "Self-blanching" variety as early in the spring as the plants can be procured. For this it is a good plan to sow two or three drills of celery in the hotbed at the same time with tomatoes, peppers, etc., that they may be ready for planting out early in the spring. These will grow quickly before the very hot weather sets in, and in a favorable season will be ready for use by the latter part of August; if kept earthed up they will be of as handsome appearance and as crisp and fine flavored as are the older varieties in December.

For the main crop the young plants should be ready to set out by the 1st of July, though in a favorable locality they can be planted as late as the middle of August, as they spend the summer largely in making roots and do not grow much until the cool weather. As soon as the plants attain eight to ten inches in height, or, rather, *length of leaf stalk* as they lie spread out, the earthing up should begin on all kinds of celery, although the seed catalogues will tell you that it is unnecessary in self-bleaching kinds. These latter may be bleached easily by tying the stalks together with straw or soft twine, but the earthing-up process is much more satisfactory both to produce a compact bunch of stalks and an even whiteness in color; otherwise, the outside stalks will remain green.

My plan in earthing for the first time, or "handling," as it is called, is to have the dirt loose and fine on each side of the row, then to stand astride the row, gather all the leaves up and hold them closely in the left hand, and with a short-handled hoe draw the loose dirt in and pack it firmly around the stalks,

leaving about two inches of the tips stick out at the top. It is important to hold the stalks closely, that the dirt may not sift down among the stalks, which would either rot the heart or cause the inner stalks to become twisted and crooked. The second and succeeding bankings are done by a boy standing over the row, clasping the stems in his hand closely, while a man on each side banks up the loose dirt with a shovel ; as they raise the bank the boy slides his hand further up the stalks, until, as before, all but two inches of the tips are covered. The boy moves along the row backward, facing the two men who are using the shovels ; as they finish one plant he grasps and bunches another, always having a plant in each hand. This method is a great time saver, and also enables the work to be done more neatly than where the plant has to be held while the dirt is drawn from a distance with the hoe. This earthing up should be repeated every two or three weeks until it is time to store the celery for the winter. Immediately before banking, I run the light plow or the cultivator on each side of the row, which furnishes plenty of fine, loose dirt ready for use. The soil will pack better and remain in the banked form better if it is moist when handled, but must not be so wet as to be sticky, for it would then "rust" or spot the stalk. The plants should be set in rows five or six feet apart, so that there may be plenty of soil for the earthing up and room to pass between the rows when banked ; the taller growing varieties will require full six feet between the rows.

About the third week in November the celery

should be dug and stored; for if it is left out longer, there is danger of its being spoiled by hard freezing. If it is to go in the cellar it should be stood upright in barrels or in boxes, the sides of which are as high as the stalks are tall, so as to keep them straight and white; the roots are left on and packed in moist soil, in order to keep the plants fresh and crisp; but the soil must not be allowed to come up among the stalks,

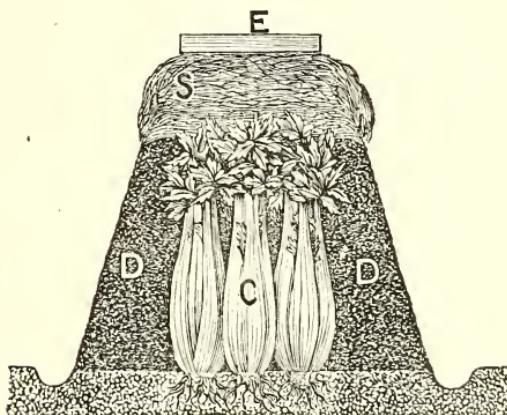


Illustration showing the manner of storing celery in the field for early use.
C. Plants of celery. D. Banks of soil. S. Straw covering. E. Board laid on top of the straw to keep it in place.

or it might cause them to rot. The root cellar must be kept cool and have plenty of air whenever it can be admitted without freezing the contents of the cellar.

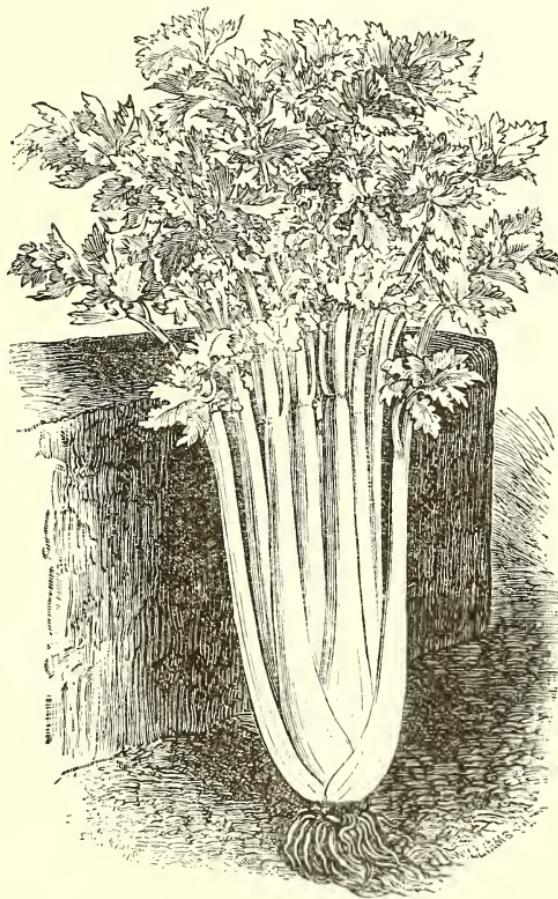
Another plan is to set the plants on a well-drained plot, side by side in a long row, three or four plants wide and as closely together as possible; earth banks are then raised on each side of the row about four to six

inches thick at the top, and the ends closed in the same manner. The roots are packed solidly in the soil, and the banks are carried up level with the longest tops; when the very cold weather sets in the whole top, banks and leaves, is covered with straw, leaves or corn fodder, to keep the frost out. I would not recommend this method of storing unless it is expected to have the supply all used or marketed by the 1st of January. The best way to store celery is in a hotbed or cold frame, which is built two or three feet deep in the ground, as already described. The celery plants are set side by side in this, as in the boxes or barrels, and the roots tightly packed in moist soil; then the sash can be put on at nights and in the daytime can be entirely removed or slightly raised to admit air, according to the temperature. On very cold nights the sash can have an extra covering of straw or old carpet, and if there is a heavy fall of snow it can be left on a few days, until the weather again becomes warmer. Stored in this manner, it is no trouble to get the celery when wanted; it can be given plenty of air, without which it will not keep, and the late kinds, if packed closely together, will complete their bleaching. If the kinds which require blanching are not kept earthed up as the growth advances, it will be almost impossible to blanch them.

VARIETIES OF CELERY.

The dwarf and half-dwarf kinds are the best, as they are superior both in quality and appearance and are much easier grown. Of these the *Dwarf*

Golden Heart is one of the best varieties; the stalks are very thick and solid, fine flavored, and blanch to a fine white, excepting the centre, which is of a fine golden yellow.



NEW GOLDEN SELF-BLANCHING CELERY.

GOLDEN SELF-BLANCHING.—The handsomest and most generally satisfactory kind that I have ever

planted. I know of none that can equal it in appearance or quality; the stalks are large, straight, crisp and very solid; it is very vigorous in growth, attaining a height of one to one and a half feet, and I have had single plants of three inches in diameter. The leaves of this variety are of a beautiful golden yellow after the plant has been bleached, which adds greatly to its handsome appearance when prepared for the table. The young plants should be earthed up as soon as they are large enough to handle, and in two weeks the celery will be in the finest order for the table, thus gaining from one to two months over the ordinary kinds. The quality is the finest and the stalks are crisp, brittle and delicious.

WHITE PLUME.—This is also a self-blanching variety, but not to the same extent as the preceding kind. In this sort the inside stalks are naturally white, and the leaves of these white stalks are variegated in the most striking and beautiful manner, which gives it the name and renders it the most ornamental variety grown. To bleach the outer stalks the plant should be kept earthed up, and it will then be ready for use at any time. It is not, however, so fine in the small state as the Golden Self-Blanching, which is of fine eating quality even when growing in the seed bed; the stalks are not so thick and meaty in the White Plume, but have a strong "nutty" flavor.

CRIMSON OR RED CELERY.—The red celery is very handsome and fine flavored when bleached, and after the self-blanching varieties is the most desirable one to grow. It grows tall and straight, is crisp and

brittle, and when well blanched is a beautiful golden yellow, the ribs and ridges being tinged with crimson.

SWEET CORN.

The first sweet corn should be planted early in April, and should be of some small-growing, very early variety, such as the Cory or Minnesota. This corn will have to struggle with the frost and chilling nights, but with the aid of the ever-present worm, which inhabits each ear, will be ready for use long before any of the really fine kinds can be had. There is only one good thing that I have been able to discover in the worm's favor in connection with his labors in horticulture, and that is the way in which he assists in ripening all the earliest specimens of the different fruits. To be sure, his efforts in this line are not always appreciated, but he is always there when you find a fruit ripening before its regular time. About the third week in April a second sowing of this early corn should be made, and at the same time should be planted some early large-eared variety, such as Crosby's Twelve-rowed, and an equal amount of a late variety, such as Stowell's Evergreen. Thereafter a planting should be made every ten days or two weeks, of a favorite sort, which, with me, is Stowell's Evergreen, although I plant other kinds throughout the season, for the sake of variety. These plantings should be kept up until the 10th of July, after which the late kinds will hardly mature; but if the ground can be spared, I would keep on planting until the 10th of August, as, if the fall should be late,

it will come in very acceptably. Most gardeners exhaust their supply about the middle of September, as they do not continue to plant late enough. If there is danger of heavy frost early in the fall, the corn that has well-set ears that have not yet ripened should be cut off at the ground and stacked against the south side of a fence or building ; it should be stood up nearly two feet in thickness, to prevent freezing, but should not be thicker, as it will heat too much and will be awkward to handle when sorting over for the good ears. Treated in this way it will provide ears for use well into November, but of course they will not be of as fine a quality as those matured in the ordinary way.

As the earliest varieties only grow about three feet high and have the ears set close to the ground, the best way of planting them is to drop the seed ten inches to one foot apart, in drills. Sow plenty of seed, and if it comes up too thickly it can easily be thinned out when hoeing ; all suckers should be broken off at the same time, so as to throw the strength of the plants into the ears.

If two rows are planted across the garden at each planting they will furnish an ample supply for the average family. If it is needed for canning or drying, an extra large planting should be made early in May, which will mature after the heavy harvest work is over and before the fall fruit is ready to preserve.

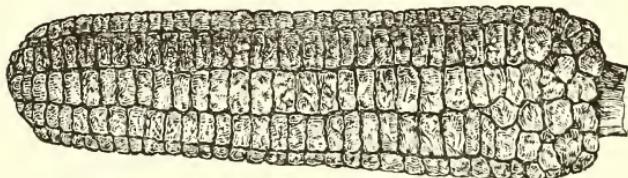
If some fine compost is placed in the drills or hills, it will help greatly to give the young plants a good start until they can reach the manure with which the garden has been dressed ; where this compost is

put in it should be covered with an inch of soil before the seed is sown.

The climbing snap beans may be planted in the hill with the tall-growing corn, or hills of pumpkins ; squashes or cucumbers may be made in every fourth hill and every third row, although the vines will be very much in the way of continued cultivation if the ground is inclined to be weedy. Sweet corn should not be planted within one hundred yards of field or pop-corn, as the pollen will be sure to mix and spoil the quality of the table corn. It will sometimes mix at greater distances, but this distance would be safe in most cases.

VARIETIES OF SWEET CORN.

THE CORY.—This is the earliest variety known, and is at the same time superior in size and quality to the varieties which have been grown as extra early, before its introduction. It ripens nearly a week in advance of any other variety, while the ears



A RIPENED EAR OF THE CORY CORN.

are much larger than either the Minnesota or Marblehead. The grains are well formed to the tip of the cob, making a much handsomer ear than the other early varieties, while in sweetness and quality it is also superior.

AMBER CREAM.—This is a medium early variety; it is a strong, vigorous grower, reaching six to seven feet in height; the ears are about ten inches in length and the quality is rich and sugary. When used on the table the grains are milky white; the "Amber" of its name coming from the ripe seed, while the "Cream" is evidently an attempt to describe its excellent quality. In planting and picking for the table, the size of the ears of this variety and of Stowell's Evergreen should be taken into account; a dozen ears being nearly equal to two dozen of some of the smaller-eared kinds.

CROSBY'S EARLY TWELVE-ROWED does not grow quite so tall as the Amber Cream, nor are the ears as large; although called "twelve-rowed," it frequently has only ten rows. The great merit of this kind is in its excellent quality, it being very sweet and juicy, and fully equal to any variety that I have ever eaten. It is one of the best sorts to plant after the very early kinds.

POTTER'S EXCELSIOR.—An excellent medium early variety; the ears are of good size, with twelve rows of deep grains. It is remarkably sweet and juicy, and quite productive, averaging two good ears to a stalk.

STOWELL'S EVERGREEN.—This is, in my opinion, the finest variety for late and general planting. It is strong-growing and prolific, while the ears are of large size and handsome appearance. The quality is rich and sweet, while the grains are juicy and luscious, when picked at the right stage. To have the finest corn of any variety it should be picked in

just the right condition ; that is, when the skin of the grain breaks at the slightest puncture, and plantings should be made frequently enough always to have a supply at this stage. The quality is inferior if it is a few days too old or too young.

CUCUMBERS.

In raising cucumbers care should be taken to procure seed that is perfectly pure, as it mixes readily with other varieties and deteriorates rapidly. The seed should be planted in hills, prepared in the manner described for cantaloupes, three feet apart in the row, and the rows $4\frac{1}{2}$ to 5 feet apart. If there is not enough compost at hand to manure them, as directed in the manner of making them, the hills can be raked up a few inches above the surface and the young plants allowed to feed on the general dressing which has been applied to the whole garden ; the elevation serving to give the young plants a better start than on the level surface. While the cucumber is a lover of heat and moisture, it is apt to damp off in its early stages if it should be cold and wet; the hills tending to lift the young plants up into a drier and warmer soil. A liberal quantity of seed should be sown in each hill, say twenty to forty seeds, that there may be enough young plants to survive the depredations of the striped cucumber bug and of the borers. The young plants should be dusted every few mornings with ashes, plaster or slug shot, to destroy these pests, and as soon as the plants are sufficiently large to take care of themselves they should

be thinned out to only three or four plants in a hill. The first planting should not be made before the middle of May, for they will not stand cold. The cucumbers should be picked as soon as they attain sufficient size and before the seeds become developed or hard; this should be done every morning while it is still cool, and the cucumbers placed in a cool cellar. The very best way is to put them in the water in a cool spring-house; there is no place where melons, squashes and cucumbers retain their freshness and crisp, fine flavor so fully as in such a spring. If the picking is carefully attended to and all the fruit picked off as soon as large enough, the vines will continue to grow and bear all summer, especially if they are in a rather shady situation, such as among the sweet corn. A few fine specimens may be allowed to ripen for seed, but if many are left the vines will dry up and die as soon as they have ripened a crop. Where a quantity of small pickles are wanted, the best way is to make a planting about the first week in August or latter part of July. These will produce large quantities if the ground is rich, and will continue to bear until killed by frost. Like the summer crop, they should be picked every day or two, and as soon as they are of the size desired, as they will bear a great many more if not allowed to grow large; also the smaller the pickle the more attractive it is, and the more readily it sells.

VARIETIES OF CUCUMBERS.

EARLY RUSSIAN.—The earliest variety grown, and is of very good quality for table use, but only grows about three inches in length; it is very solid and has but few seeds. Its small size and earliness render it a very good variety for pickles.

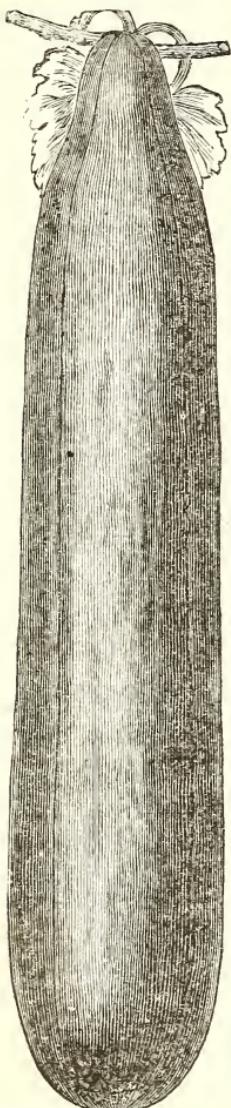
EARLY GREEN PROLIFIC.—This is largely grown for pickling, and is immensely productive. The shape, quality and great bearing make it a very valuable kind.

IMPROVED EARLY WHITE SPINE.—This variety is more generally grown than any other, and is deservedly popular for both table use and for pickling. It is of medium length, and from $1\frac{1}{2}$ to 2 inches in diameter; when not too old the flesh is very crisp and fine flavored.

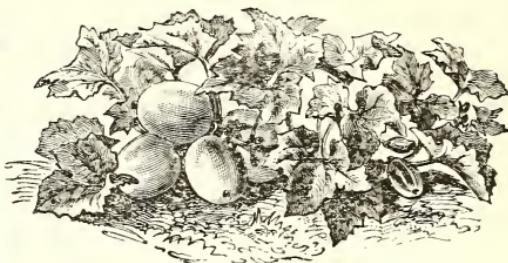
LONDON LONG GREEN.—Grows from twelve to sixteen inches in length, is a very dark green in color, and presents a fine appearance, while the flesh is firm and crisp, and the quality excellent.

BURPEE'S GIANT PERA CUCUMBER.—This wonderful new variety differs in almost every respect from the cucumber as generally grown, and in size and quality far surpasses the ordinary kinds. The vines are very vigorous in growth, with dark green, luxuriant foliage, which enables it to bear large crops of cucumbers of extraordinary size, as they are nearly three inches in diameter and are from 15 to 22 inches in length. The fruit is uniformly round, smooth and straight, the skin being of a pale green and entirely free from spines; when ripe the skin is a russet brown. The green cucumbers are fit to eat

at any stage of their growth. The flesh is entirely white, not tinged with green, as in the ordinary kinds,



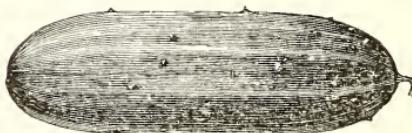
GIANT PERA CUCUMBER.



EARLY RUSSIAN CUCUMBER.



EARLY GREEN PROLIFIC CUCUMBER.



IMPROVED WHITE SPINE CUCUMBER.



LONDON LONG GREEN CUCUMBER.

and is crisp, tender and brittle. It has none of the cucumber taste of the older kinds, and is not always relished at first by those who are fond of the strong-flavored varieties, but after becoming accustomed to it for a short time, it is preferred to all others. In its native home it forms one of the staple foods of the inhabitants, being eaten in the natural state without any dressing whatever, in the same manner that we would eat an apple or a pear. It is certainly one of the most remarkable vegetables of recent introduction.

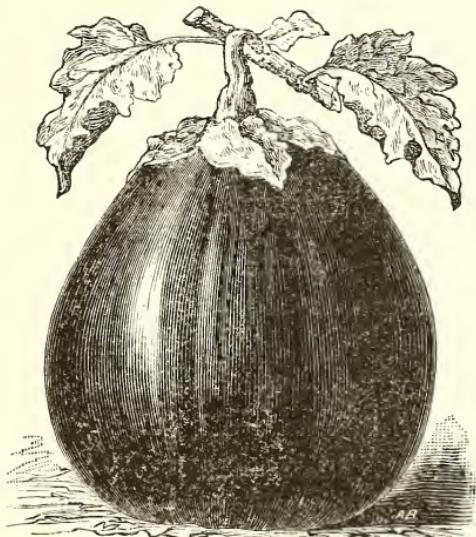
EGG PLANT.

Since the advent of the potato bug in our Eastern States the labor of raising this fine fruit is almost trebled, the bug regarding it as a delicacy superior even to the potato vines, and from its manner of bearing the fruit it is dangerous to apply Paris green or other poisons for their destruction. Where there is time to attend to it I prefer to have the bugs picked off by hand every day, but this is slow work, as we frequently get as many as a pint from two dozen of plants, and they do considerable damage by eating the young shoots and buds, even between such frequent pickings. The best way is to dust with Paris green or other poison, until the plants are of sufficient size to bear fruit, and then to keep the bugs off as thoroughly as possible by hand picking. In preference to Paris green or other strong poisons, I use *Hammond's Slug Shot*, an insecticide that is sold in all seed and implement stores, and which is said not to be injurious to man or beast, though poison is

present in the impalpable powder; it is also claimed that it is an excellent fertilizer, as well as being sure death to insects. Having used it three seasons, I have found it very satisfactory for the preservation of all small plants, excepting in one case of young seedlings just coming through the soil, in which case a too heavy application burned them up.

The egg plant is a strong, rank grower and a great lover of rich soil and of heat. The seed should be started in a warm hotbed or greenhouse about the last of March, and the soil should be as rich and light as possible. If the plants grow rapidly, they will be improved by transplanting in the hotbeds, as it will help them to form a good bunch of fibrous roots, so that they will sustain no check when planted out. They should not be set out in the garden until warm weather is assured, and then should be planted in hills enriched as for melons. These hills need not be higher than the surface of the garden, but if strong growth and large fruits are desired, a hole should be scraped out where each plant is to stand, and two or three shovelsful of well-rotted manure or compost put in, and the soil leveled off again before the plant is set. If the ground is dry when the plants are set out, water should be poured in the holes dug to receive them, and the dry soil drawn up around the stems when the plant has been set. The roots of the freshly set plants should not come in contact with the manure, but should have two or three inches of soil through which to seek it as they become established. The fruit should be cut as soon as it is of sufficient size and before the seeds

become hard, as it soon loses its fine quality when it begins to ripen. The plants will also continue longer in bearing if this course is pursued, as it takes greatly from the strength of any plant to ripen its seed. When there is danger of frost in the fall all the fruits large enough to use, from the size of an egg up, should be picked off and stored in the cellar, as they will remain fresh and fit for use for over a month at



NEW YORK IMPROVED EGG PLANT.

this cool season of the year; by so doing I have frequently enjoyed this fine fruit long after it has disappeared from the tables of my neighbors.

The hills for the plants should be about two feet apart in the row, and the rows four feet apart. Three dozen plants, which will occupy hardly a third of one of our kitchen garden rows, will

furnish an ample supply for a large family. The small early variety matures three or even four weeks before the ordinary kinds, but as they are hardly larger than a good-sized goose egg, it is not worth while to bother with them unless you are especially fond of the fruit and wish to have it as early as possible.

VARIETIES OF EGG PLANT.

EXTRA EARLY DWARF ROUND PURPLE.—This variety is in every respect similar to the New York Purple, excepting in size and time of ripening; the fully developed fruit being about two inches in length and being ready for use a few weeks after planting out in the garden.

NEW YORK IMPROVED LARGE PURPLE.—This is the best and most popular variety. It is of large size, very handsome color and appearance, and the largest in diameter of any variety, yielding large slices for frying. The quality is of the finest.

HORSE RADISH.

This pungent root is a great favorite as a relish in the early spring, and is credited with tonic properties; at any rate it is a very pleasant appetizer at a season when we have been almost without fresh vegetables for several months. It can be raised in almost any soil, though preferring a moist situation, and is most at home where it is constantly moistened or occasionally overflowed by some stream. It is raised from pieces of root, three or four inches in length and from $\frac{1}{4}$ to $\frac{1}{2}$ inch in diameter. These slips

are made from the tails or rootlets cut off in trimming the roots for grating, they should be cut off square at the top and sloping at the bottom, that you may readily know which end goes up when you plant them. The slips should be kept in a box of moist earth, in a cool cellar, after they have been trimmed, until planting time. The slips can be planted with a long trowel; but the best and quickest way is to drive a spade, full depth, into the soil, flatways with the garden line, move it slightly back and forward, to widen the hole, and slip a piece of root down each side of the cut made by the spade, which will make them six or seven inches apart; the spade should then be driven in about one inch back of its previous position and the handle pressed forward, which will pack the dirt solidly against the planted roots, the tops of which should be placed about one inch under the surface. Where it is desired to increase the supply as fast as possible, and where the roots have been used at home, the crowns or tops, with an inch or so of root adhering, can be planted again, but they will not make long, smooth roots, like the slips, but will have a tendency to make several small roots.

HOPS.

At the end of one of the berry rows, or in some corner where they will be out of the way of the plow, there should be a few poles of hops. These are grown from pieces of root, and after being once planted will not need further attention except to be kept clear of weeds and grass, to be supplied with a good top-

dressing of manure in the fall, and suitable poles to climb upon. These poles should be good strong ones, at least 8 to 10 feet in height. About the last of August or first of September the vines should be cut off near the ground and the poles pulled up, so that the crop may be gathered. There is an old saying that "the September winds should never be allowed to blow on the hops." The hops should be spread on sheets and placed in some cool, airy garret or loft, to dry. It will take five or six good poles to make a bushel of hops.

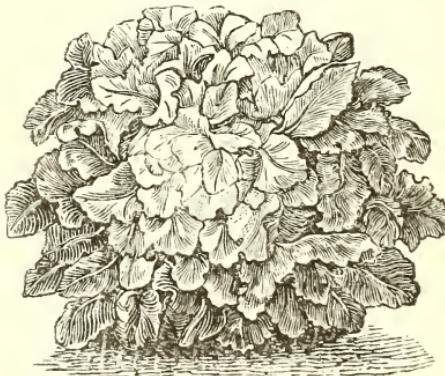
LETTUCE.

This is generally known as salad, which is a misnomer, as *salad* means anything that is served in a green state; it may be onions, tomatoes, cabbage, lettuce, or anything of that kind. By general usage the word salad has been appropriated to the lettuce, as the latter is the plant most frequently grown in this country for salad. But call it whichever you like, it is one of the greatest additions to our tables, and in our kitchen garden it should not be made a side issue of a week or two in the spring, but should be raised in the finest condition possible throughout the season, and by using the hotbeds and cold frames it is possible to have it the whole year round.

To raise head lettuce in perfection the greatest care must be taken to reserve the very best and tightest heads for seed, or if the seed is to be purchased select the hardest-heading varieties. For the earliest planting the seed should be sown in the hotbed and have the same treatment as its associate, the cabbage; the

young plants should not be allowed to stand too thickly; they should be at least an inch apart in the seed bed, or be transplanted to that distance when half an inch high. When the cabbage is set out, one or two lettuce plants may be set between each pair of cabbages in the row, according to the distance the cabbages are apart. There must be space enough between the plants to give the soil a good stirring with the hoe around each plant, as thorough cultivation is essential to the best development of both cabbage and lettuce. A second lot of seed should be planted when the tomatoes and egg plants are sown; these can be set out in the garden as soon as they are large enough to handle. The third sowing should be made in the open garden when the first planting is done, and the young seedlings should be transplanted as soon as the plants are large enough and before they begin to be crowded in the row, as this last sowing will not form heads without it receives the best of care. These three sowings are about all that can be depended upon to make hard heads, unless it can be planted in some rich, shady corner, and carefully nursed with the watering pot.

About the first or middle of May a sowing should



PERPETUAL LETTUCE.

be made of the "Perpetual Lettuce," and the plants, when large enough, should be transplanted and treated the same as the head lettuce; it will not form tight heads, but produces a fine bunch of broad, yellowish-green leaves, which are very crisp and delicate, not being strong and bitter, as most lettuces are in hot weather. This lettuce will stand from four to six weeks without running to seed, so that if plantings are made about once a month it can be had in perfection throughout the balance of the season. If the head lettuce is more particularly desired, a sowing should be made about the first of August, and another about the fifteenth; the young plants should be transplanted and treated in the same manner for heading as is followed in the spring; the first sowing will not produce heads unless the latter part of August and the first part of September be cool and moist; but you are almost sure to have fine heads from the second sowing. Personally, I prefer the Perpetual, both for its fine qualities and the ease of growing it.

Another way, and the easiest, to have a constant succession of lettuce for the table throughout the season, is to sow the seed thickly in drills and to cut the loose leaves close to the ground when it is three or four inches high; this produces rather narrow leaves, which are very tender and juicy, but which have not the substance of those grown as separate plants or heads, and are not so easily prepared for the table. These sowings can be made every few weeks, and a constant succession of young leaves be had for use throughout the entire season. It should

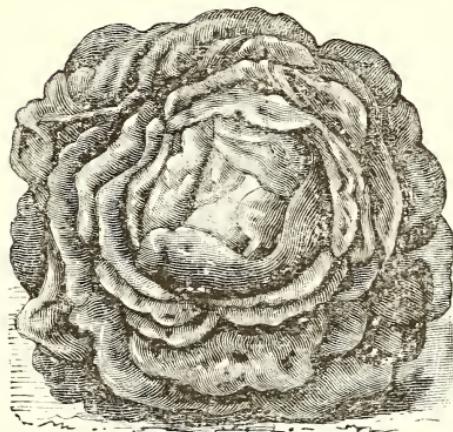
be the object in sowing lettuce to plant small lots frequently, that it may always be had in the best condition.

About the second week in September a sowing of some early hard-heading variety should be made, and a succeeding one about the first of October; from these two sowings the cold frames should be planted, about one-third from the first and two-thirds from the second ; the plants should be set about six inches apart each way, which will allow about fifty plants to each sash. When cold weather comes the sash should be put on, and the outsides of the frames banked around with long stable manure. The plants must be treated to plenty of fresh air whenever the weather will permit of it, and on very cold nights the sash should be reinforced with a covering of straw, old mats, or carpet. The lettuce grown in these frames is apt to be infested with the small insect known as the "Green Fly;" to prevent or to get rid of the presence of this pest, tobacco refuse and sweepings from a cigar-maker's shop should be strewn on the soil under the leaves ; this will destroy the fly and act as a fertilizer, but if too much is applied it will spoil the delicate flavor of the lettuce.

If a few very early cabbages are desired, the seed should be sown about the first of October and transplanted with the lettuce into the cold frames; planting them about two inches apart each way ; if these are in good condition and the spring favorable, they can be planted out about the 15th of March, and will produce heads one to two weeks earlier than those raised in the hotbeds.

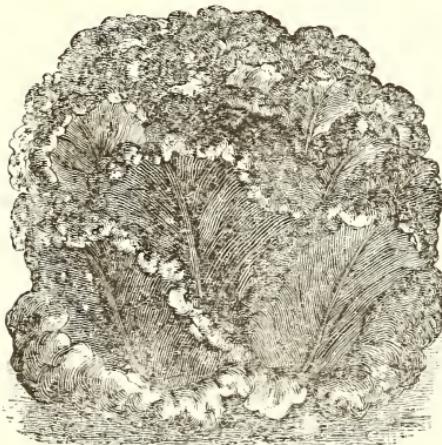
VARIETIES OF LETTUCE.

BURPEE'S HARD-HEAD.—This is the fastest growing



BURPEE'S HARD-HEAD LETTUCE.

outer leaves tend to curl in over



BURPEE'S TOMHANNOCK LETTUCE.

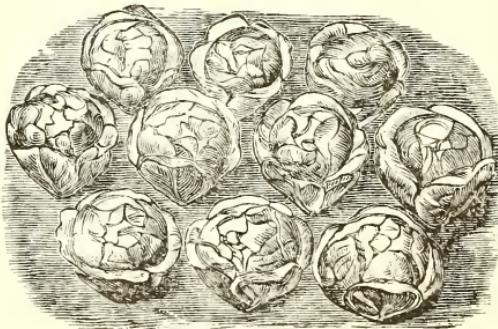
remarkably tender, rich, juicy, and never bitter.

BURPEE'S TOMHANNOCK.—This is the finest of all

and the best heading kind that I have ever grown. With this variety the ordinary gardener is able to grow as fine, large, solid heads as those grown by the professional market gardener. In shape it very much resembles a cabbage, as even the outer leaves tend to curl in over the head, instead of spreading outward, as in most lettuces. In appearance it is quite novel and striking, the edges of the leaves being tinged with a deep brownish-red, while in the centre of its hard heads the leaves are blanched to a beautiful creamy white. In quality it is remarkably tender, rich, juicy, and never bitter.

the cutting lettuces, as it is of large size, handsome appearance, and the very choicest quality. It grows very quickly, is soon ready to cut, and stands a long time without running to seed, retaining throughout the season its delicate and delicious flavor. The growth is erect; a fully developed plant is ten to twelve inches in height, and nearly as great in diameter across the top; the outer edges of the leaves curl outward. The outer leaves are shaded with reddish-brown, while the inner leaves are almost white. It is entirely free from any bitter taste throughout the entire summer.

STONEHEAD GOLDEN YELLOW.—This is a new variety, which makes very solid heads, of handsome appearance and the finest quality. Its earliness, large, tight heads and superior quality render it one of the best kinds for forwarding under glass.

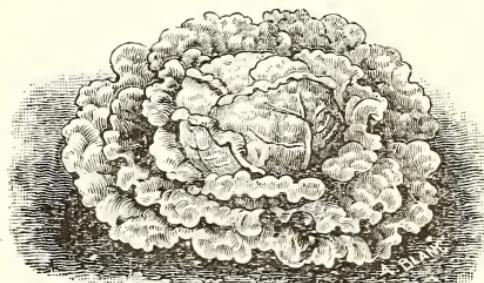


GOLDEN STONEHEAD LETTUCE.

BURPEE'S SILVER BALL.—This, next to the Hard Head, is the best heading variety for general purposes, and where the brown markings in the latter kind are an objection, the gardener will find in this kind all the good qualities that go to make a desirable lettuce. It produces a beautiful head, very firm and solid, with handsomely curled leaves. The

head is of a silvery white color, very rich and buttery in flavor, and stands for some time before running to seed.

Other excellent varieties of cabbage lettuces are *Philadelphia White Cabbage*, *The Hanson* and *The Deacon*, while *The Tennis Ball* is a great



BURPEE'S SILVER BALL LETTUCE.

favorite with market gardeners for forcing.

OKRA.

This plant, like the carrot, is too little grown, as its green pods impart a fine flavor and consistency to soups and mixed stews; besides being very palatable when stewed and served as is a dish of asparagus; the pods can also be dried for winter use. The seeds should be planted in drills, and if the dwarf variety be used, which I think is preferable, as it produces an abundance of pods and does not take up nearly so much room, the plants may be allowed to stand about one and a half feet apart in the row, the rows being three feet apart, though a quarter or half a row in the kitchen garden, as here described, will furnish an ample supply, both for use and drying. For either purpose, they should be cut before the pods attain their full size or they will be hard and woody. For drying, the best way is to string

them on a fine wire or thread and suspend them to the rafters of a cool loft or garret until wanted for use. The culture of this vegetable is very simple, as



OKRA.

the seeds are planted in drills about two inches deep, and the after treatment is the same as for corn.

ONIONS.

In raising onions in quantities the practice of late years has been to grow the crop from seed in one season, instead of the method formerly almost universally practiced in this section, of raising and keeping over sets to form the next year's crop. This latter

method is now only practiced to save labor in small gardens and to bring a few onions in for use early in the season.

To raise a satisfactory crop the ground must be free from weed seeds; it must be made as rich as possible and have constant cultivation from the time the seedlings break through the ground until the bulbs begin to ripen. The soil must be plowed, harrowed and raked, until it is in the finest possible condition to receive the seed, and it is important to select a plot for this purpose that has been kept free from weeds the preceding season. Root crops are the best to precede onions, as they not only leave the ground free from litter, but also, if they have been properly cultivated, leave the soil in fine tilth.

In our kitchen garden I would sow the seed in drills, twelve to fourteen inches apart, and cultivate with the wheel hoe; in field culture, or raised more extensively in the garden, plant in rows as closely as they can be worked with the cultivator, which, if it is provided with very narrow-bladed teeth, can be run through any rows where the horse can walk. For the kitchen garden, make the surface fine with a sharp steel rake, and if no drill is at hand, take a rake handle or blunt stick, and, drawing it along the garden line, scratch a drill about an inch deep. Sow the seed thinly, say an inch apart, but if there is reason to doubt the freshness of the seed, sow it thicker, so that a good stand may be assured. When the onions are an inch high, they should have their first working. Follow the wheel hoe or cultivator with a narrow-bladed hoe, not wider than an inch

and a half at the cutting part of the blade ; it must be sharp and lightly handled, just loosening the ground and cutting off any stray weeds. If there are no weeds the soil can be quickly loosened with a sharp steel rake. They should be worked every eight or ten days from this point until they begin to ripen ; if it is neglected for longer periods than these, the gardener will rue it in days of back-breaking labor on hands and knees. When the young onions have made leaves two or three inches in height, they should be thinned out to from four to six inches apart in the rows, according to the size of the bulb made by the particular variety planted. The seed for onions grown in this way should be sown as early in the spring as the soil can be gotten into the proper fine condition, so that they may make as strong a growth as possible before the hot summer weather ripens them off. As they begin to ripen, all those with thick necks should be pulled and used upon the table, as they will not ripen properly, and if put away with the good bulbs will start all to rotting. There is a theory common with old gardeners that, by bending the tops over when they begin to ripen, the bulbs will be increased in size and will ripen more quickly ; personally, I have tried it frequently, and have never been able to observe any difference in those bent and the ones left to ripen in the natural way. As soon as the bulbs are well matured, take them up at once, as a few rainy days might start them to growing again if left in the ground ; pull off all the tops and roots which adhere to the dry bulbs and spread them thinly on the barn floor or on the

floor of a cool loft. When it becomes too cold to let them remain longer in this position without danger of freezing, I put them in peach baskets, the stripped sides of which allow a free circulation of air, and store them in a cool, well-ventilated cellar, where we try to keep the temperature just above freezing by admitting air whenever possible, as it takes but very little warmth to start them to growing, and then they soon become unfit for use. If the gardener saves his own seed, the finest and best-shaped onions should be laid aside for planting out in the spring, for this purpose.

Where the crop is raised from sets it is not necessary, though quite desirable, to have the soil made as fine as for the seed bed. As the small onions are set in, planting at the proper distances apart, almost all the cultivation can be done with the narrow onion hoe, and if it is regularly attended to at proper intervals no hand work is necessary. The onion is a hardy bulb, and the sets can be planted as soon in the spring as the ground can be gotten into proper condition; this makes an important feature in the earliness of the crop, as the sets have several weeks the start over the onions raised from seed. For the very earliest onions, or those used when the bulb and neck are about of equal thickness early in the spring, and which go by the name of scallions, the sets are planted in October and allowed to remain in the ground all winter, so that they are ready for use almost as soon as the spring opens, two weeks' growth sufficing to bring them to a proper size. Where the main garden crop of these fragrant bulbs is raised

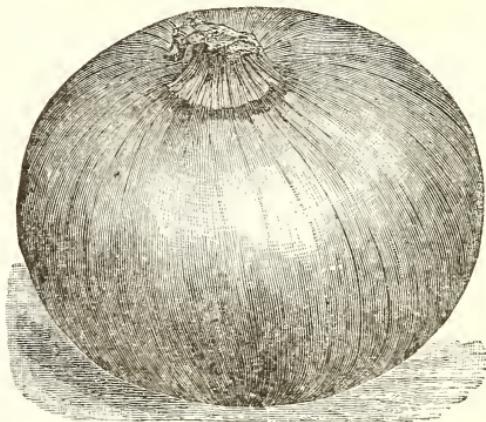
from seed, enough sets should be planted to make an early supply for the table; if no sets are at hand in the fall, to plant for the spring crop of scallions, they could be grown by sowing the seed about a month earlier than you would plant the sets for the same purpose.

In sowing seeds for sets the same directions apply as given for the crop of bulbs, excepting that the seed is sown much more thickly, so that the bulbs will touch each other and stand two or three wide in the row. If they do not seem to be making the proper growth as the season advances, they should be thinned to the proper extent to enable them to grow to the right size, one-half inch in diameter, though my own trouble is that they usually grow too large; to remedy this when they are nearly the proper size I allow them to become choked with grass and weeds, which checks their growth, but when this is done they must be watched that this mass of stuff does not rot them off when ripe. I think a better way would be to go along the row with a straight-edged hoe or spade and cut off some of the roots. The main object in having the sets of this small size is that they shall not run to seed when planted out in the spring. Any sets which exceed three-quarters of an inch in diameter should be used for pickling or cooking. When the sets begin to ripen it will sometimes facilitate the process to bend all the green tops over close to the bulbs, as it helps to dry and shrivel the tops more quickly. When thoroughly ripe they should be gathered at once, the tops and roots pulled off, and should be spread out

and stored for winter in the same manner described for the large onions. Any of the sets that persist in growing and not drying properly, should be thrown out, or they will spoil the whole crop. If a suitable cellar or loft is not available for storing the bulbs where they will be sure not to start into growth, they may be wintered on the barn or loft floor, covering with hay as the cold weather advances. The hay should be only two inches thick at first, but should be increased to one foot in thickness as the season advances, and in the spring should be removed by the same graded process.

VARIETIES OF ONIONS.

YELLOW GLOBE DANVERS.—This is a splendid variety, and is the most popular and profitable kind



YELLOW GLOBE DANVERS ONION.

to grow for market. It is similar to the Yellow Danvers as ordinarily grown, excepting in shape, which

is much finer, in my opinion. No one can fail to be pleased with this fine variety when well grown. It is quite early, and is one of the very best keeping kinds.

LARGE RED WETHERSFIELD.—A strong grower and produces immense crops of large, fine bulbs. It is rather flat in form, deep purplish red on the out-



LARGE RED WETHERSFIELD ONION.

side and a much lighter shade inside. It has a strong flavor, and is very solid, making an excellent keeping and shipping sort.

WHITE GLOBE.—One of the handsomest onions grown, beautiful in shape and color, having a clear, white skin ; the flesh is fine grained, of mild flavor, and the bulbs are of good keeping quality.

WHITE SILVERSKIN, OR WHITE PORTUGAL.—This is an old and favorite variety, being very desirable

for planting in the family garden ; the flavor is the mildest of the American varieties ; the small onions are very fine for pickling. I think this variety



SILVERSKIN, OR WHITE PORTUGAL ONION.

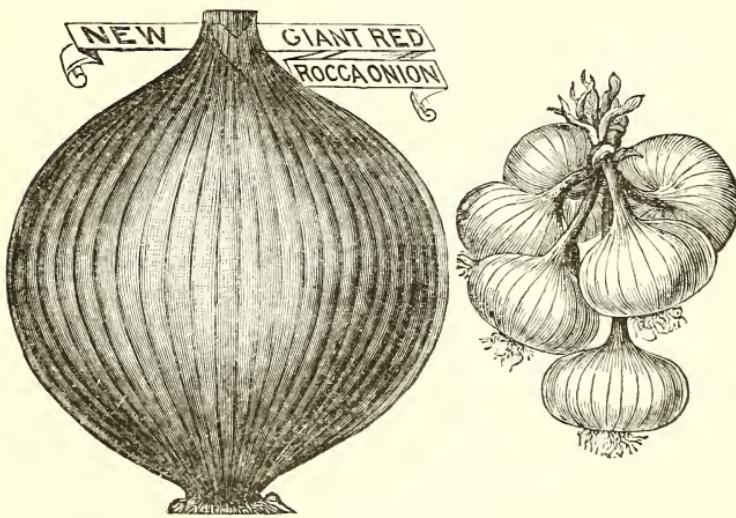
should be marketed as early as possible, as with me it is not a good keeper.*

ITALIAN VARIETIES OF ONIONS.

GIANT RED ROCCA.—These onions are of large size, handsome appearance and mild, delicate flavor. In this variety we have an onion which attains a weight of from one to two pounds under ordinarily good culture, and of most handsome shape and appearance, the outer skin being always bright red, while the flesh is white, mild and pleasant.

* Other distinct and good varieties of American onions are *Southport Yellow Globe* and *Large Red Globe*, *Yellow Strasburg or Dutch*, and the *Extra Early Red*. For more complete information, invaluable to all who propose growing onions on a large scale for market, see the new book, "HOW TO GROW ONIONS, WITH NOTES ON VARIETIES," an exhaustive treatise written by T. Greiner, of New Jersey, Col. A. H. Arlie, of Oregon, and W. Atlee Burpee.—ED.

EARLIEST WHITE QUEEN.—This variety does not grow to the large size of the other Italian kinds, more resembling our American Silverskin in size and appearance, but has the great advantage over the latter variety (which takes two seasons to attain the same size), of remarkably quick growth, while the flavor is equally, if not more, delicate. The bulbs are flat, pure white and about two inches in diameter.



GIANT RED ROCCA ONION.

WHITE QUEEN ONION.

ter. It is the finest variety for pickling grown. Sown in February, they will produce onions early in the summer, while if sown in July, they will be ready to harvest in the fall, and will then keep in splendid condition throughout the winter.

GIANT YELLOW ROCCA.—This variety is similar to the Giant Red Rocca described above, except in color, which is a clear golden yellow. It is this vari-

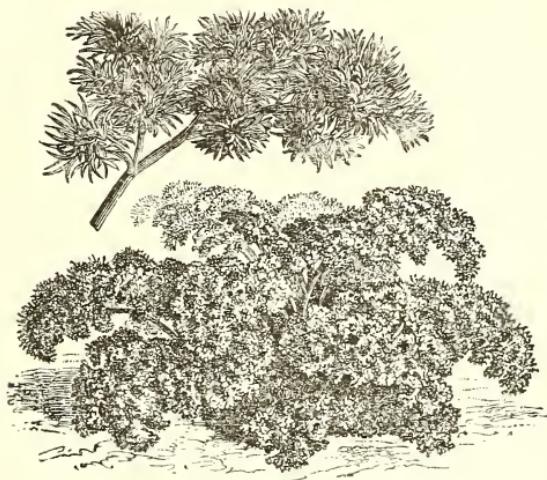
ety which is the real "*Spanish Onion*," so generally sold at the fruit stands in the cities.

BURPEE'S MAMMOTH SILVER KING.—This I believe to be the handsomest variety of onion grown, as I think the white-skinned varieties the most attractive. The bulbs are slightly flattened, but are very thick through, averaging five to six inches in diameter, and have been grown to the enormous weight of over four pounds to the single bulb, while two-pound bulbs are frequently produced under fair culture. The skin is a beautiful silvery white; the flesh is even whiter, while the flavor is very mild and pleasant, the Italians eating them as we do apples.

PARSLEY.

This should be grown by every gardener on account of its usefulness, both for seasoning and garnishing. As it seeds in the second season, fresh plantings should be made every spring. The seed, being very slow to germinate, should be soaked in tepid water for twenty-four hours before planting. The best way is to sow in the hotbed or cold frame and transplant to the garden, but it can be sown in drills where wanted and thinned out to the proper distance apart. I always try to have a bed of it near the kitchen door, as it saves much running; if such a bed cannot be conveniently placed, some should be cut and brought in with the other vegetables, as it will keep fresh some days if kept in cold water. In the fall some of the best roots should be taken up and planted in the cold frame, or put in pots and boxes in the sunny

windows of the house, for a winter supply. The leaves and tops from trimming the celery are also very fine for flavoring.



EXTRA CURLED DWARF PARSLEY.

The EXTRA CURLED DWARF is so much finer and handsomer than the other kinds that it should be the only one grown.

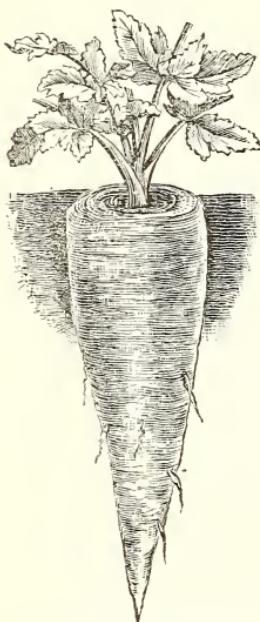
PARSNIPS.

This is a winter vegetable, needing hard freezing to refine and bring out its best quality; the roots should be left to stand where grown until they can be dug in the spring or through the winter as wanted, though some may be dug and stored in heaps for use when the ground is frozen too solidly to admit of digging them. If there is more than are wanted for table use, there should be no delay in getting them dug and marketed as early in the spring as possible,

for when they begin to sprout and grow, they very soon become woody and unfit to eat. A row should

be sown in the garden at the same time as the onions, beets, etc., are planted. It is best to sow the seed quite thickly; by thickly I mean one seed every inch or so; when the young plants are about three inches high they should be thinned out to six inches apart in the row, care being taken to leave only one plant in a place, as, if two are left, they will spoil the symmetrical shape of the roots by growing against each other. In planting the seed I always try to run it in between two rows of beets, onions, lettuce, or other early crop, thus working it with the wheel hoe while

small, and when the other crops have been taken off there is room to work it with the cultivator, which is run as close to the rows and as deeply as possible, so that the roots may attain the largest size. In digging the roots when the ground is frozen hard and is impenetrable to the spade, I use a long iron post digger with a steel blade.



IMPROVED GUERNSEY
PARSNIP.

VARIETIES OF PARSNIPS.

For the last three seasons I have grown the IMPROVED GUERNSEY, and have found it so much superior in size and quality to the Long Smooth, as to be above comparison. The roots are smooth, fine shaped, and free from small roots, while the quality is very superior.

PEAS.

The first planting should be made in the spring, as soon as the ground can be prepared. It is my practice to sow three varieties at the first planting, and two varieties at each subsequent one, kinds being sown which will mature in succession, one being ready to pick about the time the preceding one is past. The same result may be obtained by making plantings of the same sort a week apart. I think my way the easier, and besides, relish the variety. A drill of fifty feet would probably be sufficient for an ordinary family to have in bearing, but as my own family is large and very fond of this vegetable, and insist upon having them upon the table every day in the season when it is possible to grow them, I find a full row across the garden none too many to have in bearing at one time.

For several years past I have given up raising the tall growing peas requiring brush or sticks for their support, as it is not easy to procure sufficient brush for a garden of this size, unless you have a convenient woods upon which to draw, and even then it takes a great deal of labor to get the brush and stick

the peas; while it takes more than twice as long to clear the ground for the succeeding crop, and the rows must be planted at a greater distance apart, to admit of cultivation.

The quality of the dwarf kinds is fully as good as of the tall growing ones, and in many kinds the crop borne is fully as prolific; the only strong point that I know of in favor of the brushed peas, is that the pickers do not growl half so much at picking them as they do over the lower growing ones, and that some of the varieties can be had later in the summer, as their height serves to shade the ground between the rows and thus keeps it cool. As for the growls of the picker, the short vines admit of no loafing place, and no true gardener or lover of his craft ever seems to be aware that he has such a thing as a spine (except on his cucumbers) till he tries to straighten up at the end of the day's work.

For sowing the seed, plow a drill as deeply as possible with the hand plow; sow the seed thickly, say a quart to 200 feet of drill, and cover by plowing the dirt back again; when the hand-plow is not among the assortment of tools, scrape a drill three inches deep and as broad as the blade of the hoe, scatter the seed the whole breadth of the drill, using about one-third more seed than above directed, and then press them into the bottom of the drill with the sole of the boot, covering the fine dirt in afterward with a steel rake; this takes longer to do, but is a much better way to plant them when the time can be spared; the row being broader it gives the plants more room, and the seed being planted more deeply

will better withstand the hot weather. For the very earliest planting the seed should only be covered about an inch deep, and more soil can be drawn around them when well started. The successive plantings of peas should be kept up until the middle of June; those planted later than this will mildew, and not fill out the pods, unless in a cool and shady situation. The plantings should be resumed about the first week in August, and three successive plantings, about ten days apart, should be made. The vines and pods of these peas will most likely mildew, but the peas that you will get in the cool days of the fall will be the finest in quality, of the whole season. In selecting the sorts to plant, the wrinkled varieties will be found of better quality than the smooth kinds, the latter requiring to be picked while quite young, as they become hard, while the wrinkled ones remain longer in good condition.

VARIETIES OF PEAS.

BURPEE'S EXTRA EARLY.—This is a remarkably early selection of the well-known Philadelphia Early. It is the first variety to ripen, ripens nearly all its

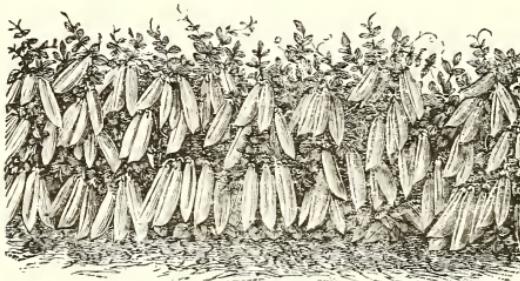


BURPEE'S EXTRA EARLY PEA.

pods at one time, and is very sweet and tender when cooked; the vines grow about two feet in height, but can easily be supported by driving stakes every few

feet and confining the vines with twine running from one stake to another.*

AMERICAN WONDER.—This little fellow is really a *wonder*, as it grows only eight to ten inches in height and is literally covered with pods. It is remarkably



AMERICAN WONDER PEAS.

early, ripening in from thirty-five to forty days, and in succulent sweetness cannot be surpassed.

EXTRA EARLY PREMIUM GEM.—This variety is about ten days later than the American Wonder, and grows from twelve to fourteen inches in height. The peas are remarkably fine in quality, and I have planted it for several years as my main variety.

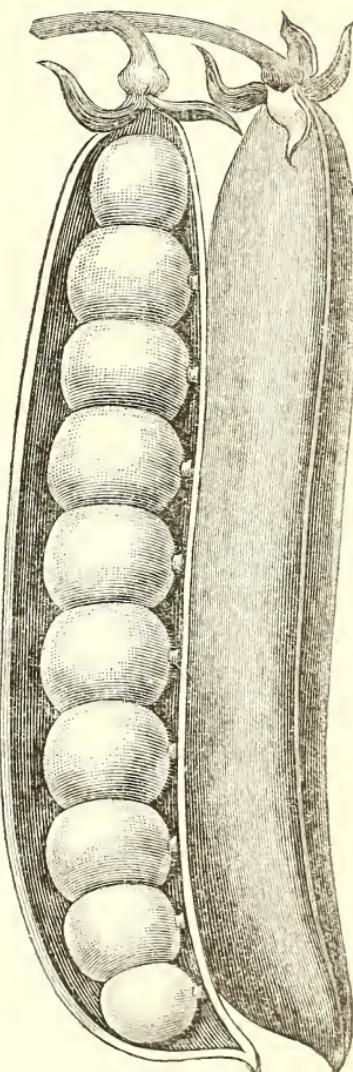
PRIDE OF THE MARKET.—A new pea that I have grown the past two seasons, and find of very superior merit. The price of the seed has been too high to admit of extensive planting, but with these three dwarf kinds, the only ones planted for the table this last season, I can say that I have never been better supplied, or with finer peas. This variety grows about

* Equally as early is *Laxton's Earliest of All*, which is a blue-seeded variety, of very fine quality and handsome appearance.—ED.

a foot and a half in height and bears a very heavy crop of pods, which latter and the peas that they contain are of unusual size and substance.*

LAXTON'S EVOLUTION.

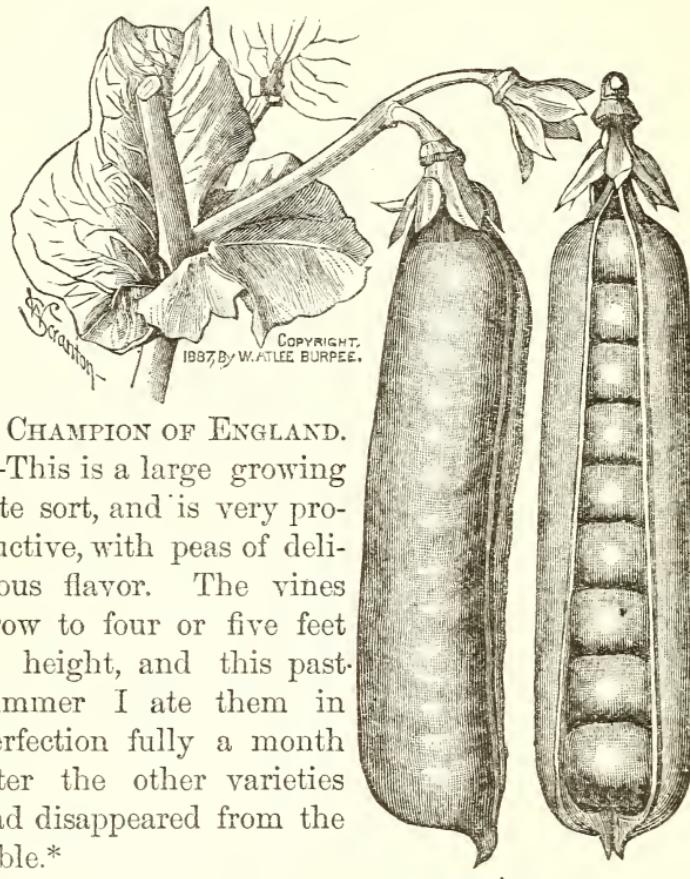
—This variety is a novelty in the way of peas; in the other varieties the object having been of late years to have the pods all mature as nearly as possible at the same time; this object has been sought for the benefit of the market gardeners, while in this new variety we have a kind which will, from its everbearing habits, be a great boon to the family gardener. The vines grow about three feet high, and bear continuously, for a space of nearly three months, an abundance of handsome, large pods, each of which contains eight to ten wrinkled peas, the pods being borne in clus-



LAXTON'S EVOLUTION PEA.

* The *Stratagem* is also a remarkably fine pea, of the same type as *Pride of the Market*, except that the large, handsome peas are *wrinkled*.—ED.

ters of two, which facilitates the picking. Like all wrinkled varieties, the quality of this remarkable pea is most excellent.



CHAMPION OF ENGLAND.

—This is a large growing late sort, and is very productive, with peas of delicious flavor. The vines grow to four or five feet in height, and this past summer I ate them in perfection fully a month after the other varieties had disappeared from the table.*

BURPEE'S QUANTITY.

* Mr. Darlington's remarks on the varieties of peas would be incomplete without reference to two remarkable new peas, obtained by crosses made some years since, but only now (1888) being introduced. These peas have been called *Burpee's Quantity* (which is illustrated above), and *Burpee's Quality*,—the former because it is the most productive of all, as many as ninety pods having been counted upon a single vine—the latter, because,

PEPPERS.

The seed should be sown about the middle of March, in the hotbed, if wanted for summer use, and as soon as the nights are warm they should be planted out. They can be sown in the open ground if the fruit is not wanted for use before fall. As they are used in preparing various kinds of pickles, etc., it would probably be the better plan to plant some at both times. When about six inches high, they should be transplanted to the rows where they are to fruit, and should be set about two feet apart in the row. Where room is scarce, I usually set two pepper plants between each hill of cantaloupes, as they grow well above the vines and are not at all in the way, while having the ground shaded from the hot sun by the vines of the melons, the surface being kept cool and moist by their broad leaves, is of great advantage to the peppers. In choosing varieties,

while also very productive, it excels other varieties in its peculiarly rich, sugary flavor. Both varieties grow two and a half feet high, but will well repay brushing, and both are main-crop peas,—Burpee's Quantity being ready for the table in about two months, and Burpee's Quality in seven weeks from planting.

Probably no one in America is better posted as to the relative value in the garden of the different peas than MR. WILLIAM FALCONER, Glen Cove, N. Y., the well-known writer on garden topics. A few peas of Burpee's Quantity (then known as No. 75) were sent to Mr. Falconer for trial. On Oct. 28th, 1887, he writes, "The pea, No. 75, I had from you this year has given me much satisfaction; indeed, so well pleased am I with it that I wish to grow it next year as a main crop. Season medium to late, grows two and a half feet, and in the way of Abundance; peas large, closely packed together in tight pods, and, when cooked, of capital quality. *Without any exception, the heaviest cropper among all my peas this year.*"—ED.

those kinds having the mildest flavor and handsomest appearance should be selected.

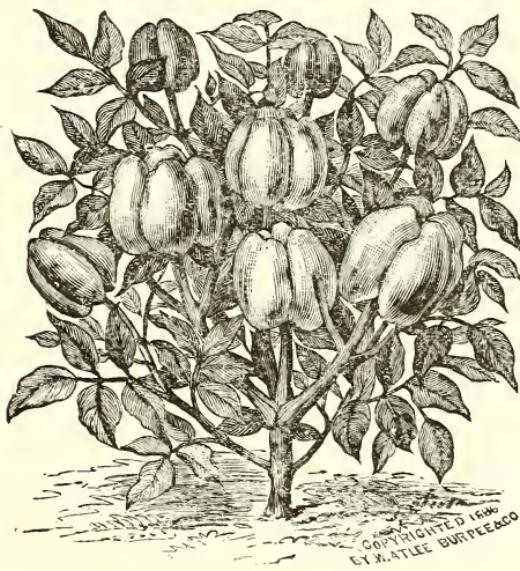
VARIETIES OF PEPPERS.

BURPEE'S RUBY KING.—This variety produces the handsomest, and at the same time the largest and mildest peppers that I have ever grown; one specimen this season being six inches long and over ten



inches in round circumference. When ripe the fruit is a beautiful, bright, ruby-red color, and the flavor is mild and pleasant, being much milder than in any other variety of red pepper.

BURPEE'S GOLDEN UPRIGHT.—In this variety the fruit grows in a different manner from any other large pepper that I have ever seen; it grows upright on the fruit stems, instead of pendulous. The fruits are large and handsome, being about four to five



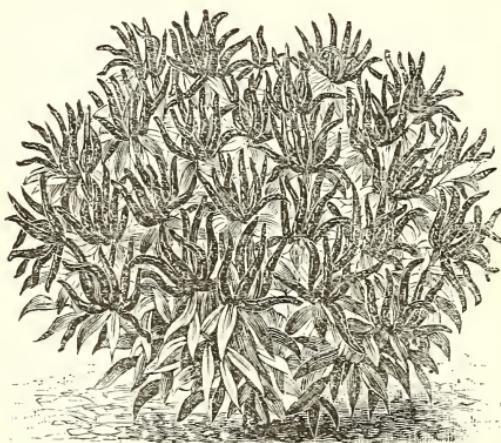
BURPEE'S GOLDEN UPRIGHT PEPPER.

inches in length, and are of rich golden yellow tinged with red. In taste it is as mild as the Ruby King—the two making a very fine contrast when used together.

BULL NOSE AND GOLDEN DAWN are the finest of the older kinds, but do not compare with the two above given, either for size or mildness of flavor.

RED CLUSTER.—This is one of the finest varieties that I have ever grown; it is low and bushy in

growth, and is covered with a profusion of thin, round peppers, about three inches in length and one-quarter inch in diameter at the base, tapering to a long, sharp point. When ripe, the fruit is a brilliant coral red, and a plant covered with fruit looks like



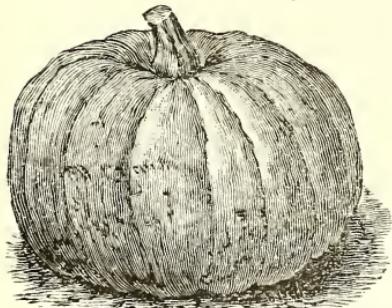
RED CLUSTER PEPPER.

some brilliant-foliaged plant that has escaped from the flower garden. It is very hot and pungent in flavor, and an idea of the productiveness can be had from the fact that over twelve hundred were counted on a single plant this last summer.*

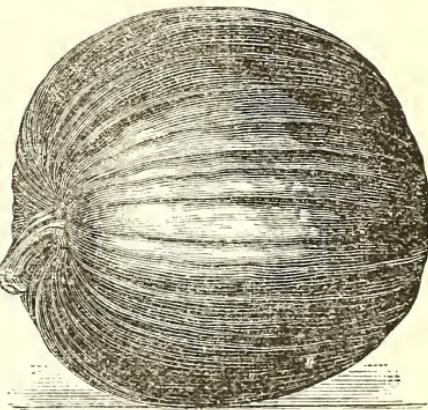
* A very distinct and novel variety has just been introduced from China, under the name of *Celestial Pepper*. The small, nearly heart-shaped fruits are produced in great abundance, growing upright, and are of a beautiful creamy yellow color until fully ripe, when they turn coral red: the plant is handsome enough for the flower garden. Among the largest of the sweet, mild red peppers are *Spanish Monstrous* and *Procopp's Giant*, while among the hottest of all peppers is the *Long Narrow Cayenne*.—ED.

PUMPKINS.

These take up so much room that they properly belong in the corn field, or in a patch of their own, in one of the cultivated fields. If there is no place for them outside the kitchen garden, and they can be kept far enough away from the squashes and cantaloupes, they can be planted about every twenty feet, in every fourth row of potatoes or sweet corn. They should not be planted until the corn or potatoes



SMALL SUGAR PUMPKIN.



NEW GOLDEN MARROW PUMPKIN.

have grown three or four inches high, or they will be in the way of cultivating these crops. If one row of the corn were left out, and a row of pumpkins planted, it would probably be the most satisfactory way to grow them, as the tall growing corn, of which there should be at least five rows between them and any other vines, would prevent the pollen from mixing, and as the hills need only be four or five feet apart, a great many could be raised in a row. The

pumpkins must all be gathered in and stored before any heavy frosts, as it will spoil and start them to rotting.

VARIETIES OF PUMPKINS.

SMALL SUGAR.—This is very handsome and prolific, of small size, the pumpkins averaging about ten inches in diameter; the skin is a deep orange yellow. It is very fine grained in flesh, sweet in taste, and an excellent keeper.

GOLDEN MARROW.—Of round shape, slightly ribbed and flattened at the ends; the skin is a rich golden orange color; the flesh is of extra quality, and very soft and tender when cooked. It is a splendid keeper, vigorous grower, and keeps well throughout the winter.*

RADISHES.

These should be sown as soon as the ground can be worked in the spring, and successive sowings should be made every two or three weeks, as recommended with peas, lettuce, etc. Do not sow too many at one time, but sow frequently, that they may be had fresh and crisp; they soon become either hollow, or hard and woody, if allowed to stand long after they are of sufficient size for use. Where there is glass enough to

* While both of the varieties named are excellent for pumpkin pies, a new variety from Washington County, New York, is of superlatively fine quality. It is known as *The Quaker Pie Pumpkin*, as it had been kept for many years in a family of "Quakers," or Friends, whose pumpkin pies became famous throughout the neighborhood.

The *Saint George* or *Old Negro* pumpkin of New England is also a great favorite, from the choice quality of its fine-grained flesh.—ED.

spare, it is an excellent plan to sow two or three rows in the hotbed at each planting of seeds, which will furnish them for use several weeks before they can be had from the garden.

There is a general impression that radishes do not do well except in very light soil, while my experience is that it is mainly a matter of manure and cultivation, and that good radishes can be raised early in the season on the heaviest of soils, though later in the season they will not succeed unless the soil be favorable. Where "Night Soil" can be obtained and composted with ashes, it will make the finest kind of manure for the radish bed; but it should be applied with judgment, as it will burn up any crop if applied too heavily. This manure can hardly be so readily applied in a special location in the garden worked by horse power, and I strongly disapprove of making "beds" in such a garden; it should be kept as level as possible, that all the cultivation may be done with the wheel and horse hoes; while "beds" mean lots of slow hand work, and hard beaten ground in the paths and edges, that are perpetual sources of weeds; while in the level garden the location of rows and crops can be continually shifted, every portion of the ground being used, and none escaping cultivation.

For the earliest plantings, the small, very early kinds should be used, and these will grow the finest radishes of the season, fresh, crisp, and slightly pungent. For summer use, the large summer kinds, of very mild flavor, should be selected. These latter should be planted from the first of June until the first of August, after which I begin to sow the small

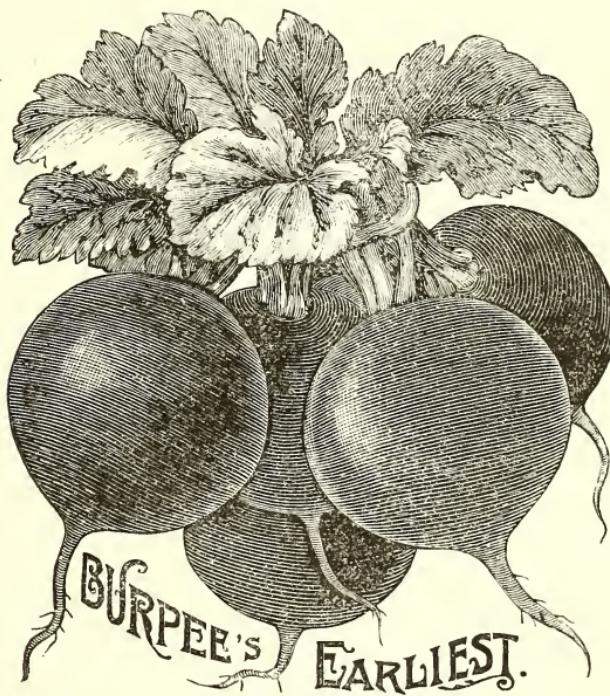
early kinds again, having found that I can grow them as fine and palatable as in the spring. In sowing these in the kitchen garden I sow a part of a row at a time, in the portion worked with the wheel hoe, where the rows are about one foot apart; the seed is sown thinly in the drills, and if it comes up too thickly, should be thinned out to one inch apart for the small kinds and two inches for the larger ones. The seed should be sown from one-half inch to one inch in depth, according as it is early or late in the season or in heavy or light soils. The radishes should be pulled early in the morning and kept in fresh water in a cool cellar until used, so as to have them fresh, brittle and crisp. The large winter varieties are not much raised, except by the Germans, being rather too pungent for the American taste.* The seed is generally mixed with the turnip seed and broad-casted or drilled in together, but if I were planting them, I would think it much better to sow them in drills and cultivate separately.

VARIETIES OF RADISHES.

BURPEE'S EARLIEST (*Scarlet Button*).—I have grown this new radish for two seasons and consider it the earliest and finest radish that I have ever grown. It is *the* earliest, about one inch in diameter, handsome, crisp and brittle. The color is the deepest

* We must differ with Mr. Darlington as to the usefulness of the winter radishes. Their fresh, pungent taste is very refreshing in winter, when there is such a scarcity of vegetables. The most popular varieties are the *California Mammoth White Winter*, *Chinese Rose Winter* and the *Round Black Spanish Winter Radish*.—ED.

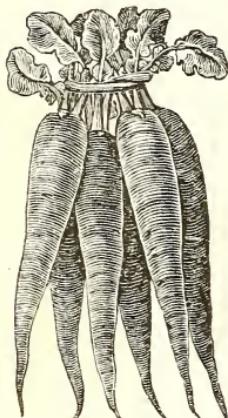
scarlet. It has very small leaves, and a great many can be grown in a small space, rendering it very valuable for forcing. Last winter I sowed seed between the rose bushes in my forcing houses and kept my table supplied, and had large quantities to sell.



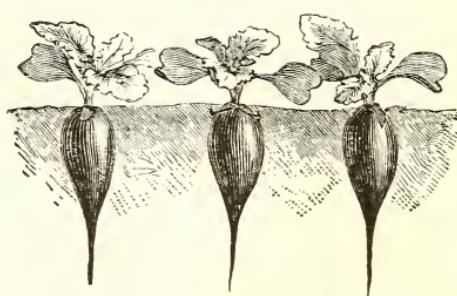
EARLY LONG SCARLET SHORT TOP.—This is a fine selection of the long, slender scarlet radishes so generally seen in the spring, and is preferred by some to the round or turnip radishes. It is very early, tender, crisp and fine flavored; the roots averaging half an inch in diameter at the top and

tapering from that throughout their length of four or five inches.

EARLIEST CARMINE, OLIVE-SHAPED.—A very early radish, of a rich carmine color, and while not so early as Burpee's Earliest, attains fully twice the size; the roots are of an even, regular olive shape and very fine quality. It is an excellent radish for forcing, on



LONG SCARLET RADISH.



EARLIEST CARMINE, OLIVE RADISH.

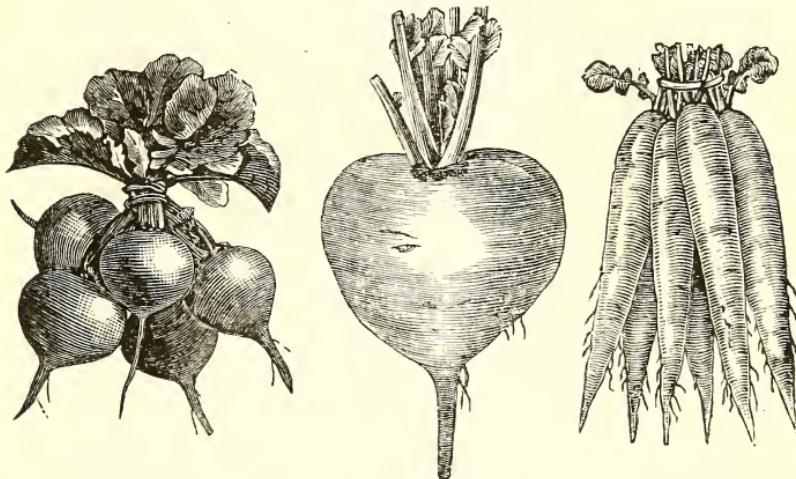
account of its size and appearance and the small growth of top which it makes, enabling many to be grown in a small space.*

* For forcing, *Wood's Early Frame* is preferred to the Long Scarlet; it is of same shape, but not so long, and has less foliage. Other good early radishes besides those named are *Early Round Dark Red*, *Half Long Scarlet*, *Early Oval Dark Red*, *Early White Turnip*, *French Breakfast* and the *White Tipped Turnip Radishes*. A variety of these handsome little radishes on the table is both attractive and appetizing.—ED.

SUMMER VARIETIES OF RADISHES.

GOLDEN GLOBE.—This variety is of very quick growth and fine quality, being ready for use in from four to six weeks after sowing the seed. In shape it is almost entirely round, the color quite bright, and the quality very sweet and crisp.

GIANT WHITE STUTTGART produces very large roots, frequently reaching the size of an ordinary turnip; it



GOLDEN GLOBE RADISH.

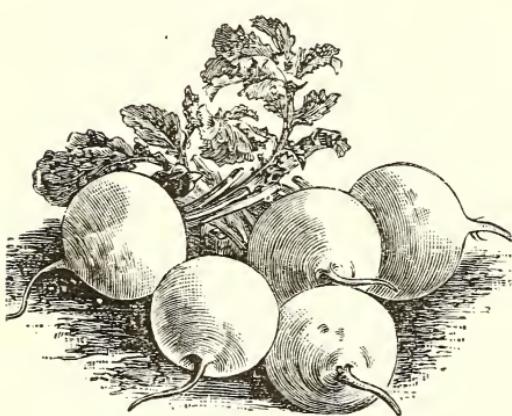
GIANT WHITE STUTTGART
RADISH.LONG WHITE VIENNA,
OR LADY FINGER
RADISH.

is very quick growing and resists the heat of summer well, being firm and brittle until it runs to seed. The skin and flesh are pure white, a good guarantee of its mild flavor.

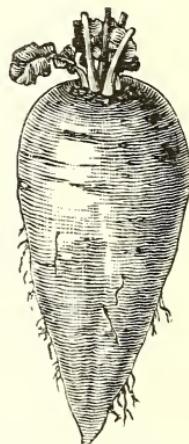
LONG WHITE VIENNA.—This is a very fine long, white radish, both skin and flesh being pure white; it is crisp and brittle and rapid in growth, and to my

mind of a much more attractive shape than the large globe radishes, which, unless pulled young, are too large for any but the confirmed lover of radishes.

LARGE WHITE GLOBE.—A very large, round, summer turnip radish, with pure white skin and flesh, which is very crisp and brittle. It grows quickly and withstands heat well. It is similar to the Golden Globe, except in color.*



LARGE WHITE GLOBE RADISH.



CALIFORNIA MAMMOTH.

WINTER VARIETIES.

CALIFORNIA MAMMOTH WHITE.—This is the largest of all radishes, the roots growing eight to ten inches long and two to three inches in diameter,

* In addition to the varieties named, the *White Strasburg*, *Burpee's Surprise* and *Chartiers or Shepherd* radishes are particularly valuable for summer use. The latter is very handsome, of large shape, clear rose color, shading off into pure white; it is also remarkable from the fact that it retains its fine quality, even when grown to an extraordinary size.—ED.

while the flesh is solid, snow white and of excellent flavor.

CHINESE ROSE.—This is a bright, rose-colored variety, of very attractive appearance; it is of excellent quality, a good keeper, and one of the best varieties for winter use.

POTATOES.

A small planting, say two or three rows, of these should be made as early as possible in the spring, the amount planted depending on how soon they will be followed by the main crop. These may be planted in the furrow when the ground is plowed, but I prefer to plant the earliest ones in furrows struck out about three inches deep, after the ground has been thoroughly prepared, as they will come up more quickly. The rows should be dressed with phosphate, to give them a quick growing start, and the pieces of tuber placed about one foot apart; the ground may be run over with a sharp spike harrow when the potatoes are just coming through, or left a little longer and then worked with the cultivator. The soil must be kept well worked, and as close to the roots as it is possible to run. The bugs must be watched for and destroyed as soon as they appear, either by dusting with Paris green mixed with plaster, or with other insect poisons, or by picking them off and destroying them by hand, which is the easier way when the patch is small and potato plants are young. If these early bugs are destroyed before they can lay their eggs, the work of protecting the summer crop will be greatly

lessened. Where the main crop of potatoes is to be raised in the garden, they should be planted about the first day of May, or the middle of April, that they may be harvested by the middle or last of August, and the ground used for a crop of turnips, peas, or other second-crop vegetables. As soon as the vines begin to die, and the skin of the potatoes is well set, so that it will not rub off with the fingers, the tubers should be dug or plowed up and stored, not only that the ground may be used again, but because, if they are left in the ground, they will either start to grow again or begin to rot. When dug, I pile them in small heaps of twenty bushels or so on the barn floor, dusting each pile as it is made with dry, air-slacked lime, about a quart to a heap; this helps to dry and preserve them, and prevents any tendency to rot. The barn doors are left open through the day, for a few days, and the potatoes dry gradually, until time for storing them, when it comes cold, though where there is a cool vegetable cellar it will save time to store them at once, and, of course, at this time of the year the ventilators of the cellar should be wide open. Where the cellar is too warm and the potatoes start to sprout, it is said that it may be prevented by turning them frequently, but I have never had an opportunity to try it. The first planting should be made of some very early ripening varieties, while the main crop should be of a kind selected for good size, heavy cropping, and the best cooking qualities.

SWEET POTATOES.

Like some other vegetables, these are generally supposed to require special soil and situation to do well, but with plenty of manure and good cultivation they can be raised of fine size and quality in any garden. As described in the chapter on hotbeds, the old potatoes are planted in a warm bed, about the first of April, and when the ground is prepared, these are taken up and the sprouts broken off close to the potato. The potatoes should be buried two or three inches deep in the bed, which will give each shoot a bunch of fine roots when it is broken off. When the nights are warm, and the trees well out in leaf, plow a double furrow where the row of sweet potatoes is to be; that is, run the plow each way in the same furrow; then fill in two or three inches of fine manure, and plow the furrows back again, forming a ridge over the manure. In the centre of this ridge plant the sets about one foot apart; they must be kept well cultivated, and the running vines must not be allowed to strike root into the soil, or they will form lots of small potatoes, and none large enough for use; some gardeners keep the vines coiled round the central plant, but the easier way is to throw the vines from two rows together, then cultivate the side left bare, and throw them back again, cultivating the other side; after the first time they need not be moved but once for each cultivation, as the blank side can be cultivated and the vines thrown over on it, leaving the other side free, which can be cultivated first the next time it is done, and the vines thrown back. Throwing the vines over can be done very quickly by run-

ning a rake handle or long light pole under them, and throwing its whole length of them over at once: they can be dug as soon as large enough for use, by scraping the dirt away from the side of the hill, the potatoes pulled off, and the vines left to form more. The whole crop should be dug as soon as the vines are blackened by the first frost, and spread out in a cool dry place, where there will be no danger of their freezing. On account of the vines taking so much room, the rows should be at least five feet apart.

SAGE.

A dozen roots or more of this herb should be planted in some part of the garden where it will not be disturbed by the plow, or if this cannot be done readily, the roots can be taken up when the plowing is done, divided and reset, which would probably raise a larger and finer crop of leaves than allowing them to stand in the same place year after year. The crop should be cut off a few inches above the ground, as soon as it has made its growth and before it begins to bloom. The shoots will again start to grow, and two or three crops can be cut in a season; the cut tops can be tied in bunches and hung to the rafters, or spread thinly on the floor of a cool loft or garret.

SPINACH.

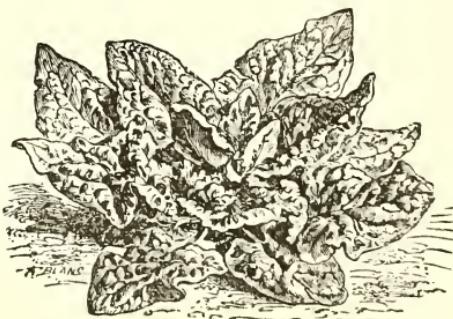
This is a quick-growing green, and very hardy, making it valuable for early spring and late fall growing. It cannot be raised during summer, on account of its running immediately to seed without

making many leaves. It can be sown as soon as the ground can be worked in the spring, and will be ready for use in a few weeks; about three sowings may be made, two weeks apart, or more, if the season is longer, though it will hardly be good if planted after the middle of May. The whole plant is cut off even with the ground, at any time before it starts to run to seed, the leaves and stems being used as boiled greens. Large sowings should be made in October, of the hardy variety, as it can be cut throughout the winter; a later sowing may be made the first of November, and lightly covered with litter when the ground has been frozen hard; this covering should be raked off early in the spring, and it will complete its growth before the first spring planting is ready for use.

VARIETIES OF SPINACH.

NEW THICK-LEAVED ROUND.—This variety produces large, thick, dark green leaves, somewhat crumpled. It possesses the valuable quality of standing for some time after attaining its growth, before running to seed.

THE NORFOLK SAVOY LEAVED.—The leaves of this kind are wrinkled like a Savoy cabbage. It makes a large bunch of succulent leaves, producing more



NEW LONG-STANDING SPINACH.

weight of leaves than any other variety, and is more hardy than any of the other kinds.

NEW LONG STANDING.—This is one of the best varieties for spring sowing, as it stands longer than any other before running to seed. The leaves are thick, fleshy and crumpled like the Norfolk Savoy Leaved.

SQUASHES.

Hills should be made for the culture of these, in the same manner and at the same time as described for cucumbers, cantaloupes, etc. These hills should be at some distance from the vines above mentioned, as there is danger of the pollen mixing and spoiling the melons, etc. There are some localities where the winter squashes do not do well or are difficult of cultivation; but the small summer squashes are of easy culture in any locality, though of finer quality on a warm sunny slope than elsewhere. The only trouble in growing them is to protect them from the ravages of the Striped Squash Bug while young, for which purpose I use slug shot, dusted on the leaves early in the morning, while the dew is still on them.

The vines should be allowed plenty of room to run, at least four feet on every side. The vines soon cover the ground and prevent using the cultivator; but the large leaves so shade the soil that few weeds grow, and where they rear their heads above the vines they can be cut out with hand hoes or pulled out after a rain, by hand.

As we can hardly use the product of more than a

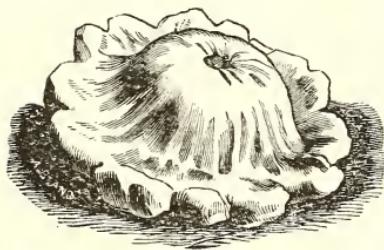
dozen hills, I divide the long row across the garden into three parts, planting the squashes at one end, watermelons in the centre, while the other end is occupied by cucumbers, which prevents any mixing of pollen, and gives a sufficient quantity of each fruit without disturbing the symmetry of the garden. In gathering the squashes for table use, care must be taken that they are not too old, or they will be tough and stringy when cooked; the easiest way to judge them is to try them with the nail or small stick; if it does not cut the skin freely and easily they are too old; no push should be required to make the cut. This is also a good test when in doubt about the proper condition of sweet corn, and should be applied to grains near the base of the ear. No old squashes should be allowed to remain on the vines of the summer varieties, for if they are allowed to ripen, the vine, having fulfilled its natural purpose, will dry up and die, while if the fruits are picked off, it will continue to grow and produce fruit.

The winter squashes are raised in the same manner, but are more difficult to start, as the young plants are subject to a borer which eats them off under ground. Plenty of seed should be sown in each hill, and as soon as you see a plant wilting or cut off, dig around its roots with your fingers or a stick until you find and kill the borer, otherwise, he will continue his labors on the other plants in the hill. The plants should also have careful watching and dusting, to preserve them from the usual insects that prey on young vines. When the plants are about one foot in length they should be thinned out to two or three in a hill,

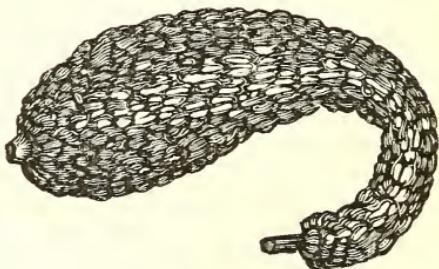
though the danger from borers is hardly passed yet, but to allow them to stand too thickly after attaining this size would stunt them and lessen the crop. The squashes should be gathered before there is any hard frost and stored in a cool, well-aired cellar. Some of the winter varieties are equally good for summer use before they become too old and hard; if these are planted, the one planting will furnish fruit for both seasons.

SUMMER VARIETIES OF SQUASHES.

EARLY WHITE BUSH, OR PATTY-PAN.—This is the best known and most generally planted of the early



EARLY WHITE BUSH SQUASH.



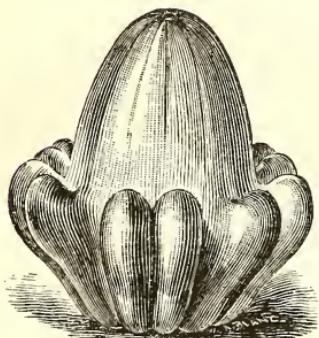
GOLDEN SUMMER CROOKNECK SQUASH.

squashes; when young the quality is very fine, the flesh is fine grained and of delicate flavor. It is a bush variety and the vine does not "run."

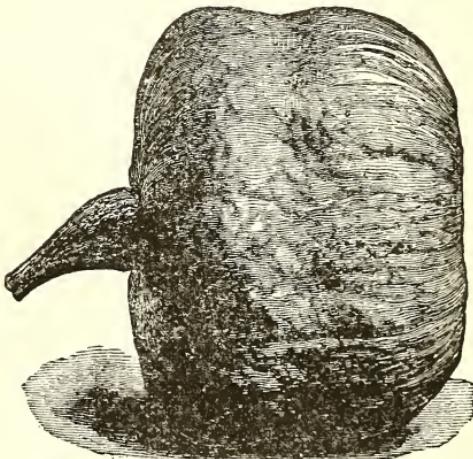
GOLDEN SUMMER CROOKNECK.—A small crook-necked summer squash, the skin of which is a bright yellow color and is covered with warty excrescences. It is early, productive and of excellent flavor.

WHITE PINEAPPLE, OR WHITE TURBAN.—This variety produces a very handsome fruit, though of peculiar shape, as will be seen from the accompany-

ing illustration. The blossom end of the squash is smooth and round, while from the stem end start ribs or ears, which attain their largest breadth and end near the middle of the squash; these ears usually grow in pairs. This variety is of excellent quality, and can be used at any stage of its growth, and the full-grown fruits can be preserved for early winter use. The skin and flesh are both of a pure creamy white tint; the flesh being very thick, while the seed cavity is quite small. The flesh is fine grained and of the best quality, possessing a rich cocoanut flavor.



WHITE PINEAPPLE SQUASH.



ESSEX HYBRID SQUASH.

WINTER VARIETIES OF SQUASHES.

ESSEX HYBRID.—A very productive squash of the finest quality and an excellent keeper, specimens having been kept until June, as sound and good as when gathered. It is one of the richest flavored, finest grained and sweetest of all squashes, while at

the same time it is one of the largest and most productive, growing close together on the vines and averaging from eight to twelve pounds in weight. It is of early, quick growth, and can be raised very successfully as a second crop, following early potatoes, peas, etc.



HUBBARD SQUASH.

HUBBARD.—This is a standard and well-known winter squash, and is of most excellent quality for winter use, but is not so well adapted to all soils and localities as the preceding varieties, nor of such easy culture.

TOMATOES.

These rank with the standard vegetables, such as corn, potatoes, etc., and yet it is not many years since they were grown in flower gardens only, the brilliant color of their fruit being then considered quite a pleasing novelty. Now, by the introduction of the canning industry, there is not a day in the year when they are absent from our table. Their culture is of the simplest, being largely a matter of soil and

manure and good early plants, to be set out as soon as the weather will permit in the spring. The seed is sown in hotbeds, from the middle of March to the middle of April; if possible, they should be transplanted, when about two inches high, to another sash, where they may stand three or four inches apart. When there is not room for this, the seed should be sown thinly in drills four inches apart, and when well started, should be thinned out to two inches apart in the row. The hotbeds should be given plenty of air on warm days that the plants may be stocky and thrifty when planting-time comes. They should not be set out until the temperature is over 60° at night, or until the oak trees are well out in leaf. They should have plenty of room, at least three feet in the row and four feet between the rows, and for an ordinary family at least four rows should be planted. Two rows should be of the earliest and two with plants sown a month later, for in some varieties there is a tendency to die off after raising one crop, though constant picking as fast as they ripen, and not allowing surplus ones to remain on the vines, will greatly prolong the bearing period; so much so, that in most years I make but one planting. The earliest hotbed plants will begin to ripen fruit the last week in July or the first in August, while, if you make a hill, as for corn, about May 10th, and put in a dozen or so seed where you want the plant to stand, pulling all out but the strongest one when they get a good start, you can have this second lot in bearing about the last of August, without the use of glass or the labor of transplanting.

The young plants must be thoroughly cultivated and hoed; when hoeing, the dirt should be loosened right up to the plant, and when it has been worked loose and made fine should be drawn up to the stem, two or three inches in height. It frequently happens, when the season is late, that the plants have grown a foot, or even two feet, in height or length. This is no disadvantage, but rather a help, if treated in the following manner: A gutter two or three inches in depth and nearly the length of the plant, is scraped under the planting line with the hoe, and the plants laid lengthwise in this and covered over, all but about five or six inches of the top, which is bent straight upward and afterward treated as though it were a plant of that size; the long stem underground immediately forms roots and assists in feeding the growth of the plant.

The ground should be well manured, but if the soil is light it can be overdone, as the plant will run too much to vine and be late in producing fruit. I have found that, though there is a general impression that tomatoes do best on a light, sandy soil, the best tomatoes I have ever raised have been on my poorest and heaviest ground. On a plot of ground where the plow turned up the yellow clay at a depth of five or six inches, I have had the ground covered; covered so that you could hardly put your foot down anywhere in the patch without treading on a tomato, and not a cracked or rotten one among them. At another time I planted all the plants there were at that time of the now famous Turner Hybrid, in a patch of clay soil where young nursery trees had been

grown for five years, and you can ask any nurseryman how much that leaves in the soil. Yet this patch produced tomatoes which astonished all beholders and led to its being placed at once upon the market; and right here I would say that the flavor and appearance of this variety have been so fine with me that I have obtained double price for my tomatoes since I have been growing it. In the last ten years I have had the handling of the first stock of three new tomatoes, each one of which has seemed near perfection when originated, yet each has been much superior to its predecessor. I mention this only to show how the craft of "assisting nature," or gardening, is always progressing and gaining new interest in the mind of the gardener. There is a constant charm about it, that, once it takes possession of you, never lets go.

If the full-sized, green and partly ripe tomatoes are picked off when there is danger of frost, and placed under the sash of the cold frame, or on the floor of the cellar, they will ripen gradually, and though not of very fine quality, may be had fresh almost until Christmas; they must, of course, be entirely green when picked, to consume so much time in ripening.

If some plants of the golden or yellow varieties are planted, they will add greatly to the attractiveness of the dish when mingled with the red ones, served sliced in the ordinary manner. If you save your own seed, the earliest ripened specimens should be saved for that purpose, and should be of perfect shape and evenly ripened, with no core, crack or rot

about them. The easiest way to clean this seed is, take a small box, knock the top and bottom off, and nail some wire fly screening over the bottom; take the fresh tomatoes, not rotten ones, as are frequently used, and squeeze the seeds into this sieve, throwing the pulp and flesh away; the seed can be washed free and clean by running clean water upon them, keep them constantly stirred and pick out the bits of pulp as they become free and float upon the top of the water, while the water and finer particles will pass off through the screening. When clean allow all the water to drain off and spread the seeds thinly on a smooth board or cloth in the sun; they should be stirred frequently, to prevent their adhering to each other when dry. If seeds are washed out in this manner and carefully dried, you can depend on every one growing, while from those saved in the ordinary manner, from tomatoes that have been allowed to heat and rot, sometimes not one seed in a hundred will germinate.

VARIETIES OF TOMATOES.

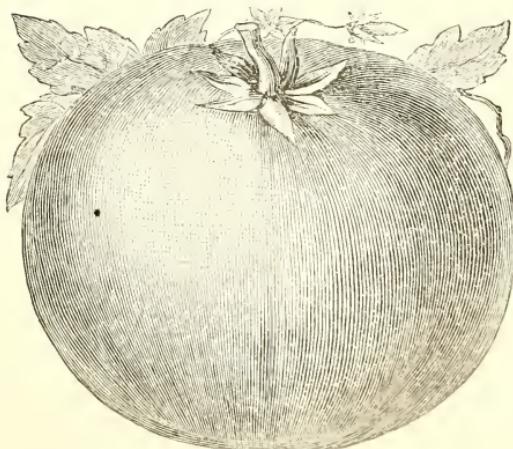
EXTRA EARLY ADVANCE.—This variety is said to be the earliest in cultivation; at any rate, it is certainly a very early variety, and at the same time its fruits are of large size, of handsome, bright, red color and good quality; the solid flesh is free from the hard, green core present in the old varieties.

BURPEE'S CARDINAL.—I had the pleasure of growing this variety before it was introduced, having been presented with a small packet of seed by the originator, who requested me to make a trial of its merits,

and though it was an unfavorable season, and, as I wished to keep it separate, I could not plant it in my best tomato ground, its fine qualities exceeded all



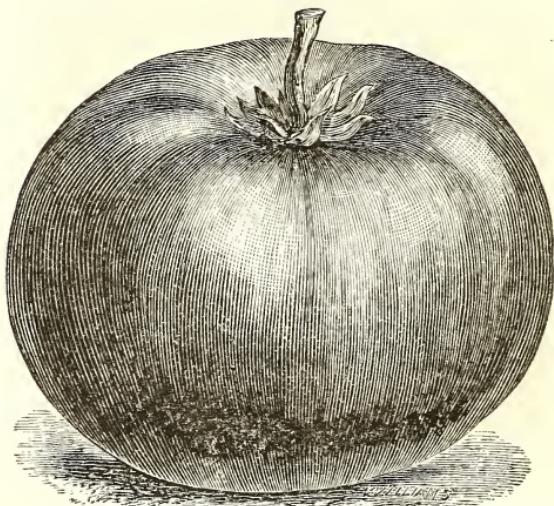
EXTRA EARLY ADVANCE TOMATO.



BURPEE'S CARDINAL TOMATO.

that he claimed for it. It is of beautiful appearance, every fruit being a brilliant cardinal red, uniform in shape, and without blemish or cracks. The flesh is of the same bright color, is firm and free from any rot or core, and is of superior flavor. The vine is very heavy bearing, and one of the best for all purposes that I know.

BURPEE'S CLIMAX.—This variety resembles some-



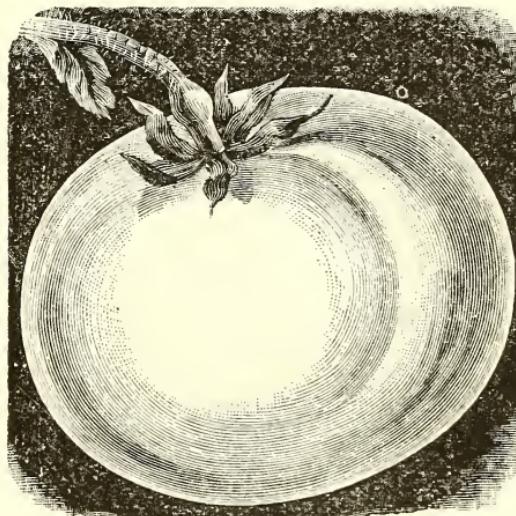
ESSEX EARLY HYBRID TOMATO.

what the preceding kind, excepting that the fruits are a light crimson in color and do not average so large as does the Cardinal. The fruit matures early, ripens evenly, without core or cracks. The flesh is fine-flavored, solid, and produces but few seeds; it is a good kind for all purposes.

ESSEX EARLY HYBRID.—Very early, solid, rich flavored and handsome. It is of large size and

grows perfectly smooth; the color is a bright pink, ripening evenly all over. It is very early, a great bearer, and, being solid, is a most excellent variety for shipping purposes.

GOLDEN QUEEN.—This is the best yellow tomato that I have ever grown. The fruit is of good size, handsome color, smooth, round shape, and superior quality. They should be in every garden, for the

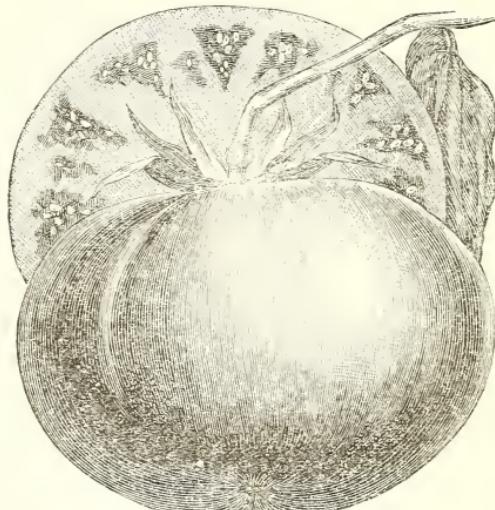


GOLDEN QUEEN TOMATO.

sake of the pleasing contrast they make when served with the red varieties.

TURNER HYBRID.—This variety I consider *the* tomato above all others, not only for its large size, handsome appearance and heavy cropping, but most of all for *its superior quality*, which far surpasses that of any other tomato that I have ever eaten; and if there is one crop more than another that I pride

myself upon, it is my tomatoes. Mr. Burpee, of W. Atlee Burpee & Co., gave me, in 1884, the small paper of seed sent them by a customer, and I planted it, as stated in the general chapter on tomatoes, and was so much pleased with it that since that time I have planted it altogether for my own use, with the single exception of a few plants of the Golden Queen. It is a rank, strong grower, with peculiar foliage, the



TURNER HYBRID TOMATO.

vines strongly resembling potato tops. The fruit is very large and remarkably early for the size of the tomatoes; the average weight of the fruit is from twelve to eighteen ounces, so it will readily be seen that the size is very large, while, as above stated, I do not think it is possible to recommend the quality too highly.*

* Mr. Darlington has only named some of the best of the large varieties

TURNIPS.

With our hot, dry summers, turnips can only be raised satisfactorily as a fall crop. They can be grown as a second crop, after early sweet corn, potatoes or peas, and should be sown as soon as possible after the first of August. The ground should be plowed or run over two or three times with the cultivator, and then harrowed till it is as fine as it is possible to make it. If the seed is sown broadcast, some winter radish seed should be mixed and sown with it. The ground should be rolled after sowing, not only to compact the soil round the seeds, which is essential to good germination, but also to prevent washing by the September rains, if the ground is at all sloping. But where the finest turnips and a sure crop are desired, it is much better to sow our garden turnips in drills, one foot apart if you have a wheel hoe, or as narrow as you can cultivate, if you have not. This will tend to having the roots of even size, and the finest appearance, as they can be frequently worked. When about three inches high, or when beginning to form bulbs, they should be thinned out to four or five inches apart in the rows, with the narrow hoe, leaving each bulb to stand by itself. It will be found that by this method, with careful culture, a larger as well as a much finer crop can be raised on the same ground than if they were sown broadcast, and that not half as much seed need be used, as it is carefully planted just where it is to grow.

of tomatoes. The very small tomatoes, such as *Victoria*, *Red Cherry*, *Pear-shaped Yellow and White Apple*, will be found useful and ornamental for preserving.—ED.

About the third week in November, or before there is danger of the ground becoming hard, the turnips should be pulled and the tops cut off; take enough in the cellar for immediate use, and store the rest in heaps. Select a well-drained piece of ground, as directed for burying cabbages; it will be most convenient to have them near together; spread about two inches of straw on the ground, and heap the turnips upon it in the shape of a cone, not more than ten or fifteen bushels in a heap; cover this with straw, an

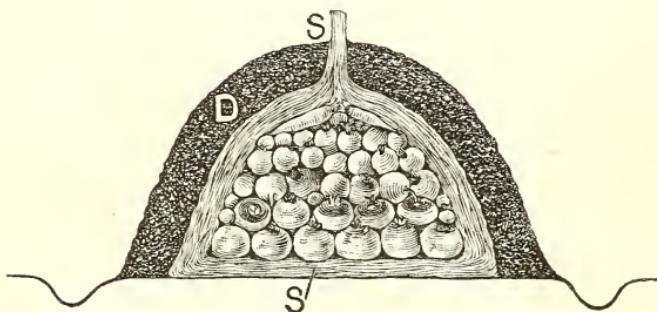


Illustration showing manner of storing turnips, beets, carrots, etc., in the garden for winter use. S, straw covering and ventilating chimney; D, covering of soil over the straw.

inch or two thick, and bind it together at the top, and let it stick up a foot or so above the top of the cone; then cover the heap with four to six inches of soil, all but the straw top to the cone, which acts as a chimney or ventilator; the roots can thus be kept in good order throughout the winter. The surplus beets and carrots can be put in with the turnips, and the whole can be gotten at, any day when the temperature is above freezing, by making a hole in one side of the heap, taking out what you want, and carefully clos-

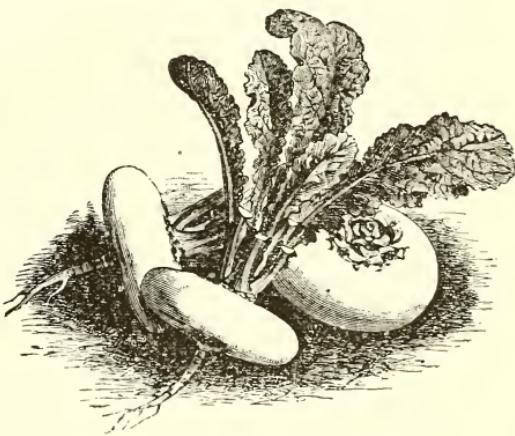
ing the opening again. The straw bottom and sides are not absolutely necessary, but are a great improvement and convenience, and will preserve the roots in a much cleaner and finer condition; the straw not only helping to keep out the frost, but at the same time providing ventilation for the heap.

VARIETIES OF TURNIPS.

EARLY RED, OR PURPLE TOP STRAP-LEAVED.—The best known and most generally planted variety. It



PURPLE TOP STRAP-LEAVED.

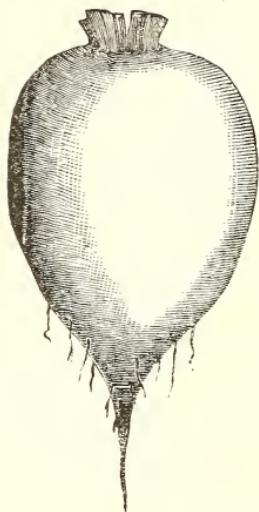


EARLY WHITE FLAT DUTCH TURNIP.

is a quick grower, and the flesh is very fine grained and flavored. The red top of the bulb, which extends down to where it rests in the soil, adds very much to the appearance of this popular variety.

EARLY WHITE FLAT DUTCH.—This is a quick growing and very early variety. The skin and flesh are a clear white, and the flesh is solid; very sweet and juicy, and of mild flavor.

EXTRA EARLY PURPLE TOP MILAN.—This kind is said to be the earliest of all turnips, maturing two weeks earlier than the Early Red. The bulb is very flat, of medium size, quite smooth, with a bright purple top; leaves grow very short, making a small, neat top. The pure white flesh is solid, fine grained, and of superior quality, even in the largest specimens. It is an excellent keeper, retaining its good quality throughout the winter.



WHITE EGG TURNIP

WHITE EGG.—As its name implies, this is a pure white turnip, of egg-shaped growth. It grows very quickly; has a thin white skin, and very solid, fine-grained white flesh. It is very sweet and juicy, of mild flavor and grows to a good size.

It is a good variety for either early or late planting.

WATERMELONS.

These are also supposed to require special location and soil, but can easily be raised in any garden where the climate is warm enough for cantaloupes, tomatoes, etc. What they most need is plenty of encouragement, in the shape of thorough cultivation and liberal feeding with well-rotted manure. The hills are prepared in the same manner as for cantaloupes, excepting that where the manure or compost can be

obtained, a good-sized hole should be dug, and well-rotted manure or compost put in as liberally as the supply will admit of, even half a barrel to the hill. If this kind of hills can be made, you can plant with seed of some of the large growing varieties, and be sure of success, unless your season is very short. If the season is too short, or if you have not the manure for large hills, I would recommend some of the



smaller fruiting varieties, as they are fully as fine in quality, ripen early, and set more melons than the larger kinds. From ten to a dozen seeds should be sown in each hill about the last of May, or when the temperature does not go below 60° at night. When they have got a good start, thin out to two or three plants in a hill.

If your melons are of the tough-rind variety, as

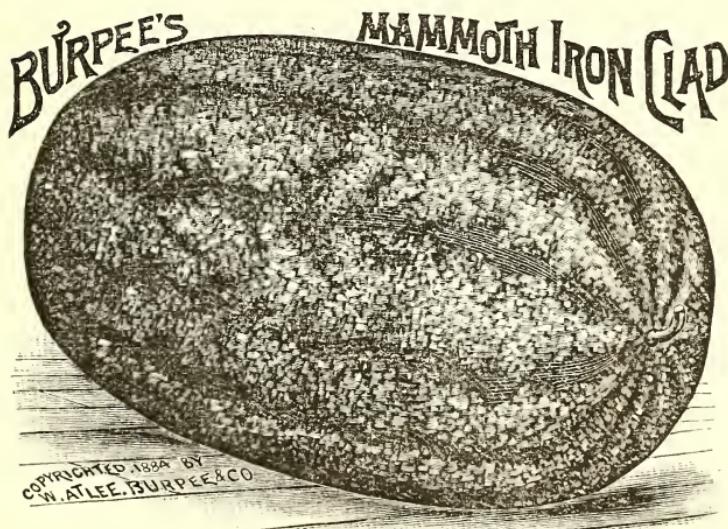
for instance the "Ironclad," you can pick them off at the approach of frost, and by storing them in a cool, frost-proof cellar, have them in good condition till Christmas. Though my own opinion is that they lose their attractiveness when the hot weather is gone, still, it is always one of the main aims, in gardening, to have things out of season as well as at their regular period of ripening.

VARIETIES OF WATERMELONS.

HUNGARIAN HONEY.—This melon is one of the best for the small garden. Though not large, averaging eight to ten inches in diameter, it is perfectly round, so that there is a great deal of eating in one of them, while the quality is not equaled in any other variety. The melons ripen early, and the vines are vigorous in growth and very productive. As its name, "Honey Melon," implies, it is sweet and luscious, and of a rich honey flavor, melting completely and leaving no stringy fibre in the mouth. The dark green skin, and intense brilliant red of the flesh, make a very striking appearance when cut.

BURPEE'S MAMMOTH IRONCLAD.—A large melon, of superior quality, and where there is room to grow them, will be found a profitable crop for market. Under ordinary culture, it frequently attains a weight of sixty to seventy pounds. They take their name of Ironclad from the exceeding toughness of the thin rind. Cutting into one is almost like cutting into sheet iron, though the flesh inside is fresh, crisp and melting. So strong is this rind, that I have

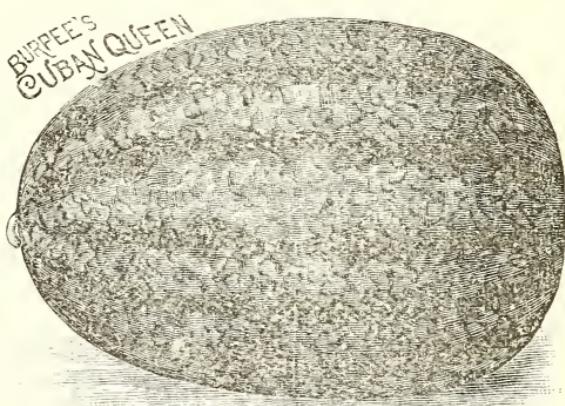
stood on one of the smaller melons with a companion, our united weight of over 340 pounds not cracking the ripe flesh within in the slightest degree; and I have seen a wagon load of melons driven over one in the field without damaging it in the slightest. While it does not produce many melons to the vine, it more than makes up in size and weight what it lacks in quantity, being a heavy cropper when this is taken into account. The flesh is very beautiful, of a dainty



red color and rich, sugary flavor. The flesh is never mealy, but always firm and solid. In shape this melon is oblong, its length often being two and a half times greater than its diameter.

ICING, OR ICE RIND.—This is a dark, green-skinned melon, of nearly round shape. It is a favorite variety, on account of the solidity of its flesh, thin rind, and rich, luscious, sugary flavor.

CUBAN QUEEN.—The melons of this variety are very handsome and attractive in appearance; the skin being striped, dark, and light green, in a pleasing manner. The vines are strong and vigorous in growth, and bear enormous crops when well manured. The melons are large, very heavy, and of the finest quality. The rind is very thin, being scarcely more than half an inch in thickness on a large melon; the flesh is bright red, very solid, rich, and sugary. This



III-lb CUBAN QUEEN WATERMELON.

is one of the very best varieties for general culture in all sections. The shape of this variety is oblong, being about twice its diameter in length.

KOLB'S GEM.—The skin of this melon is striped, as in the Cuban Queen, but is not so handsome, as there is not the same amount of contrast between the two shades; the shape is much shorter, being nearly round. The flesh is bright red, and of good

flavor; and owing to its tough rind is a very good shipping and keeping variety.*

RHUBARB, CURRANTS AND GOOSEBERRIES.

These three I would plant in the same row, in the small fruit plot or permanent part of the garden, mainly because a third of a row of each will afford an ample supply for a good-sized family, and all require nearly the same treatment. The plants of each are all set together, each in its own third of the row, not interspersed. The plants should be set as early in the spring as possible, or can be planted in the fall and well mulched with manure. The crowns of the rhubarb should be set an inch or two under the surface, and no stalks pulled until the second or third season; in the fall, when the ground is frozen hard, the old leaves should be pulled off and the row well mulched with long manure; in the spring this should be worked down to the roots, when the ground is fit to work, and the soil kept loose and free from weeds while the rhubarb is making its growth. The stalks can be pulled as soon as they are large enough for use, and can be pulled until they become so small as to be unfit for use; then dig in some fine manure or compost, and let it grow at will until fall, when the stalks will again be fit for use, though this second crop is generally allowed to go to waste, mainly, I think, through ignorance of the fact that it is just as

* In addition to the varieties named, we would recommend *Phinney's Early*, as probably the best early melon of good size; also the *Ice Cream* and *Jordan's Gray Monarch*, as very choice melons of oblong shape.—ED.

palatable as in the spring, and that it can easily be canned for winter use. Like asparagus, it must be liberally and continually fed, to have it in fine condition and of good size.

The currants and gooseberries are subject to the ravages of the currant worm, which cleans up every leaf and berry on the bushes just as they are about to ripen. To prevent this, the bushes should be dusted with white hellebore when the first worm makes his appearance; as this is a very strong poison many are afraid to use it; and, indeed, great care must be taken in using the fruit; still, the worms usually appear about the time the bushes are in bloom, and if promptly welcomed will have disappeared, and the poison be washed off the bushes before the fruit has formed. Any one who does not like to use the hellebore can dust the bushes with road dust or dry wood ashes every morning while the dew is still on the leaves; care should be taken that the *under* side of the leaves should receive a good portion of whatever is used. There is still another way of getting rid of these pests, and that is by hand-picking them; but any one who has tried it will agree with me that it is a somewhat tedious process when done every morning for a couple of weeks.

When the fall comes these bushes should be well mulched, and in the spring, before the growth starts, the old wood should be cut out of them, care being taken not to trim them too severely; never take out more than a third of the wood, or you will trim away your crop of fruit for the season. When the spring opens, dig in the mulch and keep the ground well

worked and free from weeds, as in the asparagus and rhubarb.

BLACKBERRIES, BLACK CAP RASPBERRIES AND RED RASPBERRIES.

The culture is the same for all these, and they should be planted in liberal quantities, so that there may be plenty to preserve, as well as a full supply for the table. In my own kitchen garden I have two rows of Wilson's Early Blackberry, one row Gregg Black Cap, and one row each of Philadelphia and Cuthbert Raspberries, and still the family cry for more, so I shall add about two rows of Wilson, Jr., Blackberries, and one of Lucretia Dewberry, in the spring. The dewberry will ripen before the blackberries, and thus prolong the season, as is already done with the two varieties of red raspberries.

The plants should be planted as early in the spring as the ground can be gotten into suitable condition, and if purchasing from a nursery, select those plants which are grown from root-cuttings, for they will not "sucker" so much, and where the garden is constantly well fed and cultivated this will save much in working, and the plants being carefully trimmed will last for years without replacing. The rows should be ten or twelve feet apart, so as to admit of free passage in cultivating and picking. As they do not grow so wildly until after the fruit has been picked, a couple of rows of peas or a row of early corn can be grown between each row. I have tried planting at closer distances, with the invariable result that by fall the berry patch was an impassable jungle.

For manuring the berries coarse manure should be applied in the fall, or short, well-rotted manure in the spring; in either case plowing it under as applied; if plowed in the fall the furrows should all be thrown toward the rows, thus partly banking them over for the winter.

In the first warm days in the spring these bushes should have their trimming; all the old wood that has borne fruit will be dead and should be cut out at the ground. Three or four good healthy young shoots should be selected to each plant, cut off at three and a half or four feet in height, and the side shoots cut back to three or four inches; cut off all the rest of the suckers. This is important, for if too many are left there will be but a small crop of inferior fruit. When the whole patch has been trimmed and cleared up it should be staked; or each plant may be staked as trimmed, but the trimming will have to be left until a week or so later, as the stakes cannot be driven in the frozen ground. For this purpose I use old fence rails, sawing them in the middle and then splitting each piece into two or three stakes, or the large limbs, say one to two inches thick, left from trimming brush, can be used; the fence-rail stakes, however, last longer than the fresh cut poles, and are much more easily driven.

It will be a great help in picking-time if the row is gone over with a large pair of hedge shears, and the longest of the young shoots shortened in, so as to allow easy access to the row. Where it is more convenient, the bearing wood may be cut out as soon

as the crop is gathered, thus throwing all the strength of the plant into the young shoots.

Where there is not plenty of manure, bone dust or phosphate can be sown on after the plowing in the spring and worked down with the harrow or cultivator. It, of course, takes a good deal of rope to tie all these and a good patch of grape vines up every spring, so I go to a printing office and buy the old Sisal rope which comes on the bundles of paper; this is strong, and can be bought very cheaply, as it is all in short lengths, in fact, most offices would be glad to oblige a good subscriber by giving it to him. The bushes should be planted eight feet apart in the row.

GRAPES.

I grow grapes between the rows of berry bushes, half way from each row, which are twelve feet apart. The vines are eight feet apart in the row; at every vine is planted an old fence rail, the ends squared off, and the bottom coated with coal tar before planting; these stand six feet above the surface, and from top to top runs a light pole or single strand of wire. The vines are tied up to the posts and out along the rail; this gives a clear space underneath for keeping the ground worked, and it bears the crop in the most convenient position for gathering. The vines should be trimmed early in February, that the wounds may contract and harden before the sap flows. The vines should be tied up with fresh rope; do not depend on any old ties, as, though they may look strong, the birds will pick them to pieces to make nests of. Trim

the vines to long canes, two to four to each post, and divide them at the top, carrying half out the top pole or wire in each direction; cut the side shoots back to two eyes each, as these are the spurs that will furnish the fruit branches. If fruit is desired in finest condition a two-pound paper bag should be tied round the neck, to the stem of each bunch, placing the bunch inside, when the berries are about half grown; this preserves the grapes from mildew and, what is more destructive, the ravages of bees and birds.

STRAWBERRIES.

There should be one or two rows of strawberries across the garden; the rows four feet apart. It will be found a great deal easier to keep them free from weeds and to gather the fruit when grown in this way. The varieties, one early and one late, or both rows of a continuous bearing kind, should be of the perfect flowering character, as there are plenty of varieties of this character which are as good and prolific as any pistillate sort grown, and they are not so much trouble to grow, or as uncertain a crop. The plants should be set early in the spring, in well-manured ground, twelve inches apart in the row, and should be hoed and cultivated as frequently as possible. As the runners start lay them lengthways of the row and let them root in, keeping the soil loose and fine, so that they can easily take hold.

The blossoms should be kept picked off the season of planting, or they will take the strength of the young plant so that it will make but a feeble growth

and no runners. In growing the plants in this way the runners should not be allowed to form a row more than one and a half feet wide, as this will be fully two feet in the second season, and as much as a picker can manage. The grass particularly should be kept out of the rows of young plants, or it will take a start in the spring and entirely crowd out the strawberries.

These rows should be set out every spring, taking the plants from the outside of the rows planted the preceding year, as it is almost impossible to keep them free from weeds after the first season, besides which they do not bear more than half so many, nor nearly such large berries, the second season. Unless the ground is very rich where the young plants are set, it is a good plan to sow a heavy coat of phosphate, bone, or, best of all, wood ashes, just before they are worked with the cultivator for the first time in the spring. The young plants should not be planted in land that has just been in sod, as it is full of white grubs, which will eat the plants off underground, and care should also be taken that the manure for the strawberry plot is not infested with them. These rows should be lightly covered with long manure, old hay or other litter, in the fall, after the ground has become frozen hard, so that they may be protected from rapid freezing and thawing; and if the covering is not too heavy, it can be left on in the spring and the plants will shoot up through it, leaving it as a mulch and serving to keep the berries clean, by saving them from contact with the ground,

as does the straw mulching, from which the berry is generally supposed to take its name.

In selecting varieties choose those which are recommended as suitable for your soil, heavy or light, or such as have proved good in your immediate neighborhood, as some of the finest kinds are worthless in a different soil from that to which they are adapted. If especially fine, large berries are desired, the plants should be set in rows three feet apart, the plants twelve inches, as before, and all the runners kept cut off as fast as they appear. In this case heavy mulching is imperative, or the stools will be thrown out of the ground in the spring freezing and thawing. When the spring opens, the mulching should be cleared away from the crown of the plant, but should be allowed to remain on the ground surrounding the plant, as the weeds can easily be kept from such a patch, and fresh fertilizer applied. The patch may be continued in bearing for two or three seasons, but it will be found a great deal easier if a fresh patch is planted in new ground each year.

COMPOST.

This should be prepared in the early spring for use in the hills, and if it can be stacked in the fall and allowed to rot through the winter, it will be all the better. It can be composed of barnyard scrapings, well-rotted manure, chicken manure, night soil, or other strong fertilizer, mixed with at least an equal bulk of soil or ashes. This should be wet enough to rot thoroughly, but should not be allowed to lie

exposed to the weather where its strength will leach away. When thoroughly mixed, I place it in old barrels under a shed and pour water on top of each barrel occasionally, to keep it rotting.

MANURE.

A good supply of manure should be either made or bought, as the garden should have a good dressing at least two years out of three; the third year I usually use a phosphate, but would use the manure if I could spare it, using also a good dressing of air-slaked lime every two or three years. The manner of applying the lime and phosphate is the same, but they must not be used the same season, as the lime will destroy the effect of the phosphate. They are sown on in the spring, after the ground has been plowed, and before harrowing, the harrow thoroughly mixing them with the soil. The supply of manure may be largely increased by pulling up the early peas, corn, cabbage stalks, etc., as fast as the crops are gathered, and adding them to the manure heap; this should be so located that all slops and waste from the house can be thrown upon it, so as to assist in keeping it constantly rotting; where corn stalks, tall weeds, etc., are put on the manure heap they should be cut into short lengths, with a corn cutter or other implement, to facilitate rotting and handling when the manure is drawn out.

SAVING SEEDS.

The gardener will consult his judgment and his pocketbook in buying seeds, as there are many varie-

ties of which, if he has a good strain, he can save as good seed as he can buy; but the greatest care should be used in doing so, as the quality and quantity will both rapidly deteriorate if inferior specimens are selected from which to save seed. Thus it will not do to take off all the best ears of corn, or the tightest heads of lettuce, using the nubbins and runts for seed, or the next year the nubbins will predominate and the lettuce will go to seed without taking the trouble to form a head at all.

The best plan is to set apart a section of the row of each variety for seed, and not gather any for use from that part; here all the nubbins and inferior specimens could be pulled off, throwing the full strength of the plant into the finest fruits; and the same way with the vines; one or more hills, as desired, could be kept for the purpose of bearing seed only.

All seeds should be thoroughly cleaned and dried, and each package should be carefully marked with name and date before storing. The seed chest should be in some cool place where there is no danger of frost or very warm heat, and, most of all, no danger from dampness. It is important to have the date of saving the seed marked, so that when all is not used it may be kept, as frequently a crop fails from a bad season or other causes, and a new lot of equal merit cannot be obtained, the date serving to tell how good the seed is; seed of some vegetables retaining vitality for only two years, and others as long as ten years.

HOW AND WHAT TO GROW
IN A KITCHEN GARDEN
OF ONE ACRE.

THE SECOND PRIZE ESSAY.

BY MISS L. M. MOLL.

To insure success in horticulture, the first requisite is a deep, rich, well-drained soil. For a garden, nothing can be more important than good drainage. Soil properly drained is warmer, dries faster, and can be worked earlier in the spring; it is easier to work in a wet season, and more open and moist in a dry season. Taking for granted, then, that the ground has perfect drainage, it should be plowed deeply in the fall, so as to allow the frost to penetrate and sweeten the soil. In addition to this, the frost will be out sooner in the spring, and the superfluous moisture drained off more quickly, thus leaving

the land in a workable condition at least a week earlier.*

Putting manure on the ground in the fall, or during winter, is a practice I would not recommend, because some of its most valuable portions are sure to be washed into the drains by the melting snow and spring rains, leaving the plants rather a meagre supply of nourishment to draw from when they come to need it most. The proper way to do is to give the ground a liberal spreading of thoroughly decomposed barnyard manure in spring, as soon as the land is in a workable condition.†

This should immediately be plowed in, and be followed with a sharp, weighted harrow, to thoroughly pulverize and mix the soil. This is important, as the surface of the soil is not so liable to harden or bake afterwards, if the ground is well worked in the spring. The soil is also permeated to a greater depth by the sun and air, causing healthier and quicker growth, consequently better and earlier vegetables. The form of our one-acre patch should, by all means, be a rectangle, made longer than wide, with the rows running lengthwise, and all perfectly straight, and everything else so arranged that as much of the

* While, as stated, a well-drained soil is most desirable for the garden, and its value is not to be underrated, yet success in gardening can be had on almost any soil. The more unfavorable the circumstances, the greater credit is due the gardener, and many cannot afford expensive underdraining.—ED.

† The suggestion as to applying manure in the spring is good, as far as the well-drained land is concerned; where the land is not well-drained, however, more of the good properties of the manure are retained by applying the coarse manure in the fall, as it then fills the soil with decomposing vegetable matter.—ED.

cultivation can be done by horse power as possible. But let me say right here, that no one should undertake the cultivation of a kitchen garden without being willing to do a reasonable portion of the work by hand. This part of the work can, however, be greatly lessened by using the various labor-saving garden implements, to be purchased at reasonable rates, of most seed firms.

If "variety is the spice of life," it can certainly nowhere be more desirable than in the kitchen garden, which is to supply our table with its yearly demand for choice vegetables; I say *choice*, since every one having the care of a garden should strive to grow everything of the very best, and that, too, in great abundance and variety.

The most convenient mode of arranging the different kinds of vegetables is to ; 1st, place the perennial plants in one bed, running the entire length of the ground ; 2d, Plant the vegetables side by side which are to remain out all winter, so as not to interfere with next spring's plowing; 3d, Arrange side by side those varieties which require the whole season to mature ; and, 4th, put beside each other the quickly maturing kinds, which may be succeeded by other varieties, in order that the ground to be occupied by a second crop may be all in one piece.

The preliminaries being arranged, we are now ready to go into details, and to this end we shall first take under consideration the permanent bed, so called from the fact that it is to contain such perennials as asparagus, rhubarb, horse radish, artichoke, and

NORTH.

TURNING ROW.

	PERMANENT BED.	
	PARSNIPS AND SALSIFY.	
	QUICKLY MATURING VEGETABLES SUCCEDED BY SECOND CROP.	
		VEGETABLES REQUIRING THE GREATER PART OF THE SEASON TO MATURE.
		TURNING ROW.

DIAGRAM OF THE GARDEN.

chives; also parsley, and a collection of herbs, without which no garden is complete.

The herbs are placed here because they require a soil especially prepared for them, by the addition of either fine sand or sifted coal ashes, to make it mellow and dry.

ASPARAGUS.

Asparagus, one of the best and earliest of spring vegetables, would be in universal use, but for the prevalent though erroneous idea that it is difficult to grow. Being a gross feeder, the soil can scarcely be too rich. Although the process of deep trenching is now being discarded, yet, to attain the best result it is necessary that a large quantity of rotted manure be worked into the bed, to a depth of at least 18 inches. Instead of losing two years' time by raising plants from seed, send and get strong two-year old plants early in spring. Set these in the prepared bed, 18 inches apart each way, and about six inches deep. Give frequent and thorough cultivation, and as soon as the tops are ripe in fall, cut off and burn them, to prevent the nuisance of seedling asparagus about the garden. Next spring, and for at least fifteen years after, the bed should give a full crop, and should have a heavy dressing of manure put on each fall, which should be spaded in before the shoots appear in spring, together with a sprinkling of three pints of salt per square rod.

To facilitate gathering, make the bed of such a width as that the centre can be reached from both

sides. Cut all shoots as soon as they appear, till the time for the final cutting, which will vary from the middle of May to the middle of June, according to latitude and your fondness for this most delicious plant.

RHUBARB.

Rhubarb, known familiarly as *Pie Plant*, succeeds best in deep, somewhat retentive soil. Coming, as it does, before berries or fruit, its acid leaf stalks form an admirable substitute. It may be raised from seed, but to get the quickest returns procure strong roots in spring, and plant them three feet apart each way, the ground having first been fertilized and dug to a considerable depth. Never permit a plant to exhaust itself by seed-bearing; stir the soil often, cover with coarse litter in fall, fork it over in the following spring, and you may rely upon a good supply of pie plant for many years to come.

HORSE RADISH.

The best is grown by planting 8-inch lengths of root grown the previous year. These young roots planted in spring, small end down, with the top two inches below the surface, in rich, well-cultivated soil, will form radish of large size and superior quality, in one season's growth. After having several weeks' growth rub off the young side roots from the newly-planted roots, to increase the size and insure a smooth, well-shaped root. See to it that no roots are scattered about the garden, as every piece of root, however small it may be, will, in a short time, become

a strong plant, difficult to eradicate, and thus prove how annoying a good thing is in the wrong place.

GLOBE ARTICHOKE.

The Globe Artichoke is cultivated for its flower heads, which are cooked like asparagus, in an undeveloped state. On account of its hardiness, easy culture and perennial nature, this plant should be more generally grown. Plants raised from seed sown the previous year, set in any good garden soil two feet apart, with slight covering in winter, will remain in bearing a long time.

JERUSALEM ARTICHOKE.

The Jerusalem Artichoke needs only to be planted in order to thrive. Its *tubers* can be made into quite palatable pickles, and I have seen instances where, in the absence of cucumber pickles, the artichoke tuber was prepared the same way and used as a substitute.

CHIVES.

Chives are perfectly hardy perennial little members of the onion tribe, and are grown exclusively for their tops, which are used wherever the flavor of onion is required. Planted in small clumps in any common garden soil, they will grow readily, and in time increase so as to render a division necessary. The tops appear very early in spring, and can be shorn throughout the season, hence this valuable little plant should have a place in every garden.

PARSLEY.

As parsley seed is so obstinate about germinating in spring, it does better if sown in autumn, as soon as ripe. Where that is not possible, the seed may be sown in spring, but "don't look for the plants till you see them coming," since parsley seed just comes up when it feels like coming up, and not before. The plants should be given a moist, rich soil and a partly-shaded situation. The curled sorts are ornamental, but the plain-leaved is best for general use in cookery. When once established, a supply can easily be kept up from self-sown seed.*

AROMATIC HERBS.

Aromatic or *Sweet Herbs* are worthy of more attention than they generally receive. If cooks used them more freely, doctors would have less occasion for prescribing them. The soil of the herb bed should be mellow and warm, but not over-rich. Deep, fertile soil produces an increase in size and foliage at the expense of fragrance, strength and flavor. The seeds should be sown as early in spring as the ground can be prepared.

Sweet Basil, Summer Savory, Sweet Marjoram, Sage and Thyme are grown for their foliage, which is used for seasoning, while *Sweet Fennel, Dill, Coriander, Anise* and *Caraway* are chiefly prized on account of their

* The parsley seed will germinate quickly if soaked in tepid water for twenty-four hours before planting. We must also take exception to the statement that the plain-leaved sorts are superior to the curled varieties for seasoning purposes.—ED.

aromatic seeds. Aside from being useful for culinary purposes, most of the above-named plants possess valuable properties.

This completes the permanent bed.

Before proceeding any further I wish to have it understood that hereafter, in the course of this paper, all seeds advised to be sown broadcast are to be sown in long, narrow beds, with narrow walks between the beds, for convenience in gathering the crop and to protect the plants from being trodden upon.

Where sowing in drills is advised, it is likewise to be understood that all drills are to be not less than eighteen inches apart, and the cultivation between them to be done with a hand cultivator or wheel hoe, followed by hand hoeing between the plants if necessary.

Where planting in rows is recommended, it is intended that all rows, unless otherwise mentioned, should be not less than two and a half feet apart, to admit of the cultivation with a one-horse plow or cultivator, followed also by hand hoeing around the plants or hills.

Concerning the distance plants should be apart in the rows or otherwise, it may be safely said that each plant should stand so that when fully matured its outside leaves will just touch those of its nearest neighbor. This rule does not apply to onions and root crops, which may stand closer.

Concerning the best varieties of the different kinds of vegetables the reader is referred to the catalogues of reliable seedsmen. I shall recommend such varieties as I know to be good from personal experience.

PARSNIPS AND SALSIFY.

Alongside of the permanent bed, plant parsnips and salsify. Parsnip seed germinates slowly and quickly deteriorates by age, therefore early sowing and seed of unquestionable freshness are of primary importance. The subsoil should by all means be thoroughly loosened by the subsoil plow, unless it is naturally of a loose, friable texture. When it is borne in mind that parsnip roots grow wholly under ground, and when well grown measure over eighteen inches in length, the necessity for this will be seen at once. Sow in drills and thin to five inches apart. Parsnips may safely be left in the ground all winter, as frost greatly improves them in saccharine quality.

Salsify or oyster plant, as the name implies, possesses the flavor of the oyster to a marked degree, and is highly esteemed by many on this account. It should have the same treatment in every respect as directed for the parsnip, and like it, too, is improved by frost. In the ground adjoining the parsnips and salsify, plant such vegetables as lettuce, spinach, radish, peas, bush beans, onions, kohl rabi, early cabbage, cauliflower, early potatoes and sweet corn. These mature nearly in the order named, and in time enough to be succeeded by other vegetables which will be mentioned hereafter.

LETTUCE, SPINACH AND RADISH.

Seed of lettuce, spinach and radish should be sown broadcast and as early as possible, with later sowings at intervals of about two weeks for a suc-

sive supply. Soil for lettuce and spinach should be of more than ordinary richness, and should contain sufficient moisture to insure rapid continuous growth. The best lettuce heads are raised by sowing seed in a hotbed and transplanting to the open ground when plants are two inches high. Cabbage varieties should be selected for this purpose. In this way I have grown heads of the *New York Lettuce* to weigh two pounds each, under ordinary treatment. *Hanson*, *Burpee's Golden Heart* and *Perpetual Lettuce* are all good sorts. The *Cos varieties* do best if tied up a few days before using, to blanch all the inner leaves.

The Radish will thrive in any good garden soil, but a light sandy loam is better than heavily manured ground. In order to be crisp and tender, the growth should be rapid and unchecked. I can recommend *French Breakfast*, *Golden Globe*, *White Stuttgart* and *Chartiers*. The latter is of unusual merit.

PEAS.

As we all want green peas as early as possible, the seed should be planted early—the earlier the better. Peas will bear a great deal of cold without the slightest injury, either in the ground or after they are up. Sow in drills at the rate of one pint of seed to thirty-five feet of drill. To keep up a succession make a sowing of an early, medium, and a late variety at the same time. In about two weeks make another sowing as before. Soil for early varieties should be warm and very rich. Late varieties should be planted deeper than early sorts, but the soil should not be so rich, as late varieties are more productive on moist, cool ground, not

over rich. *Philadelphia Extra Early*, *American Wonder* and *Telephone* can be relied upon. After trying various methods for training pea vines I am satisfied that brush is the most effective support. Place a few short twigs or sticks on each side of dwarf peas, to prevent them from leaning over and decaying on the ground, as is often the case in a wet season.

DWARF OR BUSH BEANS.

Dwarf or bush beans should not be planted before danger from frost is over. Being very tender, nothing is gained by planting earlier. They may be planted in hills one foot apart, with four plants to the hill, but the better way, I think, is to plant in drills, with plants three inches apart in the drill.

Seed should be covered lightly with mellow soil. Beans often fail to come up, from being covered too deeply, especially if there is much rain after planting. Two plantings of both early and late varieties, at intervals of two weeks, will give a supply until pole beans come in season. Beans should never be hoed while the foliage is wet, as that produces rust. *Black Wax*, *Early Valentine* and *Golden Wax* are standard sorts.

ONIONS.

Onions may be raised successfully either from seed or from sets. If to be grown from seed no time should be lost in getting it sown in the spring. Sow in drills and thin the plants when about the size of quills, disturbing the remaining plants as little as possible. For southern latitudes and for an early supply it is

better to grow onions from sets planted three inches apart, in drills. Sets are small onions grown the previous year, from seed sown quite thickly. Sets may be planted very early, as they will not be injured even if the ground should freeze after they are planted. *Wethersfield* and *Danvers* are good varieties. For extra large specimens, select *Italian varieties*.

KOHL RABI, EARLY CABBAGE AND CAULIFLOWER.

Seed of kohl rabi, early cabbage and cauliflower should be sown in a hotbed, and the plants transplanted to the open ground when four inches high.

Kohl rabi is grown for its turnip-shaped bulb, which is formed above ground, by the expansion of the stem. The bulb should be used while young and tender, as age detracts from its good quality. Set the plants eight inches apart in the row. For later use sow seed in drills and thin to the proper distance apart. When well grown and properly prepared for the table, the kohl rabi is one of the most desirable of vegetables, and should be in every garden. *Early White Vienna* is the best variety.

Plant early cabbage in rows, with plants eighteen inches apart in the row. After trying several different sorts I have decided upon *Early Jersey Wakefield*, *Early Flat Dutch*, and *Fottler's Brunswick*, as the best varieties for this latitude, and, as the cabbage worm has made late cabbage an uncertain crop for several years past here, in southern Illinois, we have planted largely of the Early Flat Dutch cabbage and had it picked and put up before the cabbage worm

made its appearance. This I know, from experience, to be better than the use of all the insect powders combined.*

To grow cauliflower to perfection, the ground needs extra heavy manuring, and the plants must be supplied with an abundance of water as soon as heads begin to form. Plants should stand the same distance apart as early cabbage. The outside leaves should be pinned together over the centre, to shield the head from the direct rays of the sun, which often cause it to turn green, thus rendering it inferior in quality or entirely unfit for use. *Early Snowball* and *Erfurt* are both good and reliable. Nowhere does success depend more on the quality of the seed than in the cauliflower.

SWEET CORN.

Sweet corn should be planted as soon as the ground is reasonably warm, in hills, three feet apart, three plants to a hill. The season for sweet corn can be greatly prolonged by planting early and late sorts, at intervals of a few weeks. There are many good early kinds, but I think the best late variety is *Stowell's Evergreen*, which produces ears of the largest size, that remain in a condition fit for the table longer than those of any other variety of sweet corn.

* The reason here presented for not growing late cabbage, because the worms might damage some of them, is quite original, and about equal to not planting any potatoes, because the bugs might eat the tops. We can hardly conceive of a garden, however small, without late cabbage. For the prevention of the ravages of this pest we would suggest the use of alum water, as being sure, easily applied and entirely harmless to the user.—ED.

POTATOES.

If you wish to enjoy new potatoes early in the season, your seed potatoes must be planted as early in the spring as the ground can be prepared. Plant them one foot apart in the row and cover with the corn plow. I would advise the planting of medium-sized potatoes in preference to large ones cut to pieces. If large ones must be used cut them a few days beforehand, so that the newly cut surface may dry before planting, otherwise, there is danger of the pieces rotting in the ground, especially if there is much rain immediately after planting. The *Early Ohio* gave us excellent returns for several years in succession.

We will next take under consideration that portion of the garden devoted to the vegetables requiring the greater part of the season to mature. The most important of these are:—

EGG PLANTS, TOMATOES, POLE BEANS, BEETS, CARROTS,
LATE CABBAGE, CUCUMBERS, SQUASHES AND
SWEET POTATOES.

Sow Egg Plant and Tomato seed in a hotbed and remove the young plants to a cold frame when three inches high, from whence do not remove them till the weather is settled and warm.

Egg Plant will repay the extra care it requires, and should be in every garden. Handle the plants very carefully in transplanting, and never remove them to the open ground before the nights are warm. At the North plants may be grown in flower pots plunged in a cold frame till the weather is sufficiently warm. Plants should stand $2\frac{1}{2}$ feet apart in

the row, and the soil should be very rich and warm. *New York Purple* is the leading variety, but those who succeed with the *Black Pekin* cannot fail to be pleased with its large, glossy fruits.

When all danger from frost is over, carefully transplant the Tomato plants from the cold frame to the open ground, to stand two feet apart in the row. As they grow tie them up on a trellis and remove all superfluous branches, so as to give the growing fruit the benefit of full sunshine, without which it will be of inferior quality and scarcely worth the having.* Nothing can be worse than allowing tomato plants to grow along the ground at will without any support. Better it would be not to grow any at all than to degrade them in that manner. Make a small trellis, four feet high, by nailing a few pieces of lath across small stakes driven into the ground. I regard *Livingston's Perfection* as an excellent variety, and have grown extra large specimens of the *Mikado*, which, by the way, seems to have

* It is the extreme richness of the soil, which is claimed by Miss Moll to be requisite to the growth of the Tomato, that, in her case, renders the use of the trellis and pruning necessary, as it induces too rank a growth of vine, covering the ground so that the sun and air cannot penetrate unless the vines are tied up. We can hardly see any *degradation* in allowing the plant liberty to grow in the manner intended by nature. More than this, as seedsmen, we pride ourselves on the new and improved varieties of Tomatoes that we have introduced, and the finest we have ever grown—finest alike for size, color, quality and productiveness—have been grown on poor clay soil, that looked fairly yellow when at all dry, and we have never been able to equal them on either rich heavy loam, or on light soils. We would not undervalue the tying up of a few plants for early use, but claim that it is unnecessary for the general crop.—ED.

been cast in the same mold as the *Turner Hybrid*.* Be this as it may, I can heartily recommend either variety to all wishing to grow fine, solid, enormous-sized tomatoes.

POLE BEANS, as the name implies, require poles or some other support for the vines to twine upon. The poles must be set firmly, to prevent being blown over by the wind. Where poles are not procurable, the vines may be trained upon strings stretched up and down along two wires, which are stretched and firmly fastened to posts or stakes, one wire above and the other below. Pole Bean trellis, seven feet high, can be purchased, and will answer the purpose for which they are intended. The best pole bean of its kind is the *Large White Lima*. Being very tender, it should not be planted before the ground is warm. The beans will come up sooner if the eye in the seed is placed downward. The seed should be lightly covered with mellow soil, as this bean, considering its size, has less penetrating power in coming up than any other kind. In rainy seasons I have covered the seed with coffee grounds, which never became compact or hard

*As stated, these Tomatoes were undoubtedly originated from the same stock. We received the Turner Hybrid in the spring of 1884, a small packet of seed being sent us by one of our customers—Mr. J. W. Turner, of Iowa. This seed we had planted, and were surprised at the wonderful growth, size and quality of the variety, but unfortunately there were two distinct colors: some were a rich deep red and some a pale pink, of a not very attractive shade. So we grew it carefully for another season before sending out, that we might have them all of the best color. This, we believe, is not the case with the *Mikado*, as in our trial the two colors were present, although they both are evidently of the same origin.—ED.

from the beating rains, and nearly every bean came up nicely, while those covered with earth were almost a total failure.* The Large White Lima is generally considered difficult to grow, but I cannot say so, as I have grown it without much difficulty, and had beans to perfection by the pailful throughout the summer. Mine were planted in very rich soil and the rows were about four feet apart, three plants to a hill, and the hills two feet apart. If supported by a trellis, beans should be placed one foot apart in the row. The above applies to all pole beans, whether Limas or string beans. Of the latter class of beans I have found *White Creaseback* a variety of great merit. *Southern Prolific* and *Dutch Case Knife* are also good. At the North, where the seasons are too short for the Large Lima, the *Small Lima* or *Sieva*, as it is also called, should be planted.

Sow BEET and CARROT seed as early in spring as possible. Sow in drills and thin beets to five inches and carrots to three inches apart in the drill. To have Beets early we sometimes sow seed of an extra early variety in the hotbed and transplant to the garden when plants are a few inches high. The same may be done with early carrots. Sow *Early Scarlet Horn Carrot* for early use and *Long Red Coreless* for

* This idea of a mulch of light material to cover the freshly planted beans in a wet season is a very good one; but we would think that saving and applying *Coffee Grounds* for a bean patch of the size it should be in a garden of one acre, would be a good deal like "emptying a hogshead of water with a teaspoon." We would suggest the use of sand, sifted coal ashes, chaff or buckwheat hulls, as answering the purpose equally well, and as being much more readily obtained.—ED.

fall and winter. *Eclipse* is one of the best early Beets and *Long Blood Red* is the very best late variety.

Sow late CABBAGE seed in a seed bed, when danger from frost is over, and when plants are three inches high, plant them in rows three feet apart, with plants $2\frac{1}{2}$ feet apart in the row. *Late Flat Dutch*, *Burpee's Surehead* and *Large Late Drumhead* are reliable sorts.

CUCUMBER and SQUASH seeds should under no consideration be planted before the weather is settled and warm, as the young plants are extremely tender and sensitive to cold. Cucumber hills should be four feet apart each way, and squash hills should be six feet apart. Scatter about a dozen seeds in a hill, and when the second pair of leaves have formed, remove all but three of the strongest plants. No fruit should be permitted to ripen on cucumber vines, as this greatly weakens the plant and prevents it from further setting fruit. Pinching off the tips of winter squash vines when they are about three feet long increases their productiveness. *Early Green Cluster*, *White Spine*, and *London Long Green* are good varieties of cucumbers. The list of desirable squashes is long, but whoever grows the *Pineapple* and the *Brazil Sugar Squash* for early use, and the *Essex Hybrid* and *Hubbard* for winter use, will not be disappointed.

The term "hills," as used here and elsewhere in this paper, does not imply heaped-up soil, but simply means that several seeds are to be planted together in one place, on a level with the rest of the ground. This I have found to be better than heaping up the

ground to form hills, which soon dry out and are difficult to water.*

The only plant requiring hills or ridges is the SWEET POTATO. Throw several furrows together with a plow and draw the soil up with a hoe, to form a tapering ridge; two feet high and three feet wide at the bottom. The plants, which are obtained by planting the tubers in a hotbed, are planted two feet apart on top of this ridge. Being of tropical origin, the sweet potato plants should never be planted till danger from frost is over. One hoeing is generally sufficient, as the vines soon cover the ridge, but these should not be allowed to take root, as that diminishes the productiveness of the plant. Late varieties are of better quality than the early ones.

PEPPERS, GUMBO AND LEEKS.

No garden is complete without at least a few plants of peppers, gumbo and leeks. To grow PEPPERS to perfection, the young plants should be grown in the hotbed and be transplanted to very rich soil, from twelve to eighteen inches apart, according to variety. When they commence blooming, a liberal quantity of hen manure should be strewn around each plant and be hoed in. This will increase the product

* We think that the melons, cucumbers, etc., get a better start (and we would include the pole beans) when the hill for seed is raised slightly above the surface, as it greatly lessens the danger of the young seedlings "damping off," and instead of the watering, which is here claimed to be necessary, we would suggest a thorough loosening of the soil around the roots.—ED.

wonderfully. *Burpee's Ruby King* and *Golden Dawn* are two superb new varieties.

GUMBO, or OKRA, is grown for its seed pods, which are used in soups and stews. Plant the seed eighteen inches apart, when the ground is warm, in spring, and use the pods while young and tender.

Sow LEEK seed very early, in a seed bed, in a sheltered place, if possible. When plants are about six inches long, transplant them to trenches six inches deep, with very rich soil at the bottom. Fill up the trenches as the plants grow, and later draw soil up to them. As a result, you will have fine, large leeks, blanched a foot long, which may be kept all winter if dug up with the roots on, and stored in moist sand in the cellar. Aside from being valuable for soups and salads, blanched leek makes an excellent dish when sliced and cooked like green peas. This fact does not seem to be generally known, as well-grown leek is so seldom seen in kitchen gardens.*

We will now go back again to the ground adjoining the parsnips and salsify. The early vegetables will mature and be harvested one after the other, so that there will be enough vacant ground in time for—

CELERY, ENDIVE, TURNIPS, WINTER RADISHES, KALE,
CORN SALAD, WINTER LETTUCE AND WINTER
SPINACH.

Sow CELERY seed in a hotbed or cold frame. When a few inches high, plant five inches apart, in a bed, in

* Leek is both wholesome and palatable. We heartily endorse the words of recommendation, and trust that many readers will include it in their gardens. Kohl Rabi is another vegetable but little known in America, and which Miss Moll is also fully warranted in recommending.—ED.

the open ground, which should be especially prepared for the purpose by extra heavy manuring. Let the plants remain in this bed, to grow strong and stocky. Never let the ground in this bed become dry; give thorough cultivation and cut off the tops of the plants once or twice, to make them grow stocky. When six or eight inches high, lift the plants carefully and set them six or eight inches apart, in trenches a foot wide and fourteen or more inches in depth. Several inches of rotted stable manure should be mixed with the soil at the bottom of the trench. When planting, firm the ground well around each plant. Supply enough water to keep the ground at the bottom of the trench very moist all the time. As the plants grow, press soil around the bottom of each plant and tie together at the top with string, to keep the stems straight and in an upright position. The blanching or earthing up is done by gradually filling up the trench with ground as the plants grow. Care should be taken not to get any ground into the hearts of the plants and never to earth up while they are wet. Sowing seed in the open ground and growing plants on the level surface may do for cool northern latitudes, but my experience is that it will not do here in southern Illinois. *Boston Market* and *Crawford's Half Dwarf* are as good as any of the taller varieties, and are more easily blanched.*

* The plan here described involves much unnecessary labor. It takes considerable time to dig the trenches, and, unless the soil of the garden were unusually deep, this depth of trench, fourteen inches, would bring up and mix with the surface a great deal of very poor subsoil. As rich soil cannot be found at this depth, a liberal supply of manure must be put down, for

Seed of ENDIVE should not be sown early, as this plant is grown chiefly for late summer and autumn salad. In this latitude we sow at intervals from the middle of June to the 1st of August. Seed may be sown either broadcast or in drills, but the plants should be thinned so as to stand from six to nine inches apart. It may also be sown in a seed bed and be transplanted to the proper distance apart. When the plants are full grown, tie all the outside leaves together over the heart, to blanch the inner leaves, which will take about a week. To keep up a constant supply, some should be tied up every few days. Never tie up when the leaves are wet or they will soon decay. *Green Curled* and *Batavian* are both very good.*

TURNIP and winter RADISH seed may be sown from the latter part of July to the middle of August. If the ground is reasonably free from weed seeds it is advisable to sow broadcast, otherwise it is better to sow in drills. In either case, it is well to remember that the plants should be, like the first settlers, without a near neighbor. The size and quality of the turnips and radishes will depend, to a great extent, upon thin sowing of the seed, or, what is still better,

the roots to feed upon, where it will not be available for any future crop, unless the trenches were located in exactly the same spot each year. The increase in the labor of digging for storage would be considerable over the plan of surface culture as recommended in Mr. Darlington's treatise. Miss Moll gives as a reason the greater heat in her locality, to overcome which we would suggest planting between rows of tall-growing sweet corn, and also recommend the use of some of the self-blanching varieties of celery.—ED.

* Endive, commonly known in restaurants as *Chicorée*, is one of the most attractive and refreshing of salads. It is particularly appetizing when served mixed with lettuce, with plain French dressing.—ED.

a judicious thinning of the plants when young. The largest and sweetest turnips we have ever grown were of the *Purple Top Strap-leaved* variety, and were grown as a second crop after onions. The seed was sown broadcast, and no further attention given the plants except thinning while young. In the same manner and on similar soil we raised *White* and *Black Spanish* winter radishes of excellent quality, that weighed from four to seven pounds each. The *Chinese Rose*, though not so large, is the handsomest and one of the best winter radishes grown. The *California Mammoth* is a superb fall radish, but does not keep well in winter. The *White Stuttgart* is regarded as a summer radish, but I have had it, grown as a winter radish, to keep firm and solid till April.

KALE, or BORECOLE, is a valuable plant for spring greens. The variety called *Dwarf German Greens* is best for this purpose. Sow seed in drills about September 1st, and give thorough cultivation till the approach of cold weather. When winter sets in, give protection with a covering of straw or similar material, put on so as not to smother the plants. The most effective way of doing this is to place a layer of fine brush or cornstalks between the drills, to a height equal to or exceeding the height of the plants in the drills. Then cover all with a layer of clean straw, six inches deep. The object of putting the brush between the drills is to provide an air cavity between the plants and the covering.*

CORN SALAD, or VETTICOST, is a valuable little plant

* This is also sown at the same time as late cabbage, and grown in the same manner, being used as a fall and winter supply of greens, and we think is most palatable in this way.—ED.

which is used for salad, the same as lettuce. For spring use, sow the seed any time during the month of September, and at the approach of cold weather cover the bed with a few inches of straw or hay. It should be used very early in spring, as it soon runs to seed when warm weather sets in. Although this plant will bear neglect, it will also repay good treatment.

Seed of winter SPINACH and winter LETTUCE should also be sown during the month of September, and the plants should be protected with a covering of straw, or similar material, during winter. Put on part of the covering when the ground begins to freeze, and as the cold increases, add covering till it reaches a depth of four or five inches. In regions where heavy snowfalls can be depended upon, it may not be necessary to protect any of the above-named plants, but here and elsewhere, where winters are severe and the snowfall light, it is of the utmost importance to provide protection, or no success need be expected. *Hammersmith* is the best winter lettuce, and *Round Leaf* and *Prickly Winter* are two good varieties of spinach for fall sowing.

The beds of kale, corn salad, winter lettuce and winter spinach should be arranged side by side, and alongside of the parsnips and salsify, so as not to interfere with the plowing of the ground in fall and in spring. As some of the parsnips and salsify will be left in the ground to be dug at leisure in spring, it is best to have all these vegetables side by side, so that when the parsnips and salsify* are dug, and the

* In this locality (Philadelphia), parsnips and salsify will start into

crop of kale, corn salad, etc., harvested, the whole ground can be plowed at once.

Before closing, a few words in regard to watering and transplanting may not prove amiss.

The best time for watering is in the evening. Though water may be given to the roots at any time, it should never be sprinkled on the foliage in the hot sun, as that causes brown spots or blisters where it comes in contact with the leaves. More injury than good results from beginning to water a plant, and then not keeping it up till the necessity ceases. As soon as the ground begins to get dry after watering, the soil should be stirred with the hoe. When you start to water a plant, do it thoroughly, so as to give the roots a soaking at every watering, or else do not water at all.

The main points to be regarded in transplanting, are handling the plant carefully, so as to injure the roots as little as possible, planting firmly and shading to prevent the sun from withering or scorching the leaves. It should be borne in mind, that it is not nature's design that a plant should be transplanted, and we ought to show sympathy for a plant as well as for our fellow-creatures.

And now, having taken a walk with you through the kitchen garden, all I have further to say is, may you be favored with seasonable rain and sunshine, for, be it remembered, without the co-operation of the elements all our efforts are in vain.

growth, and become worthless for the table if left in the ground after it has become possible to work it in the spring. For a late supply, the roots should be dug and stored in a very cool cellar. This method does not interfere with the garden being all thoroughly plowed in the spring.—ED.

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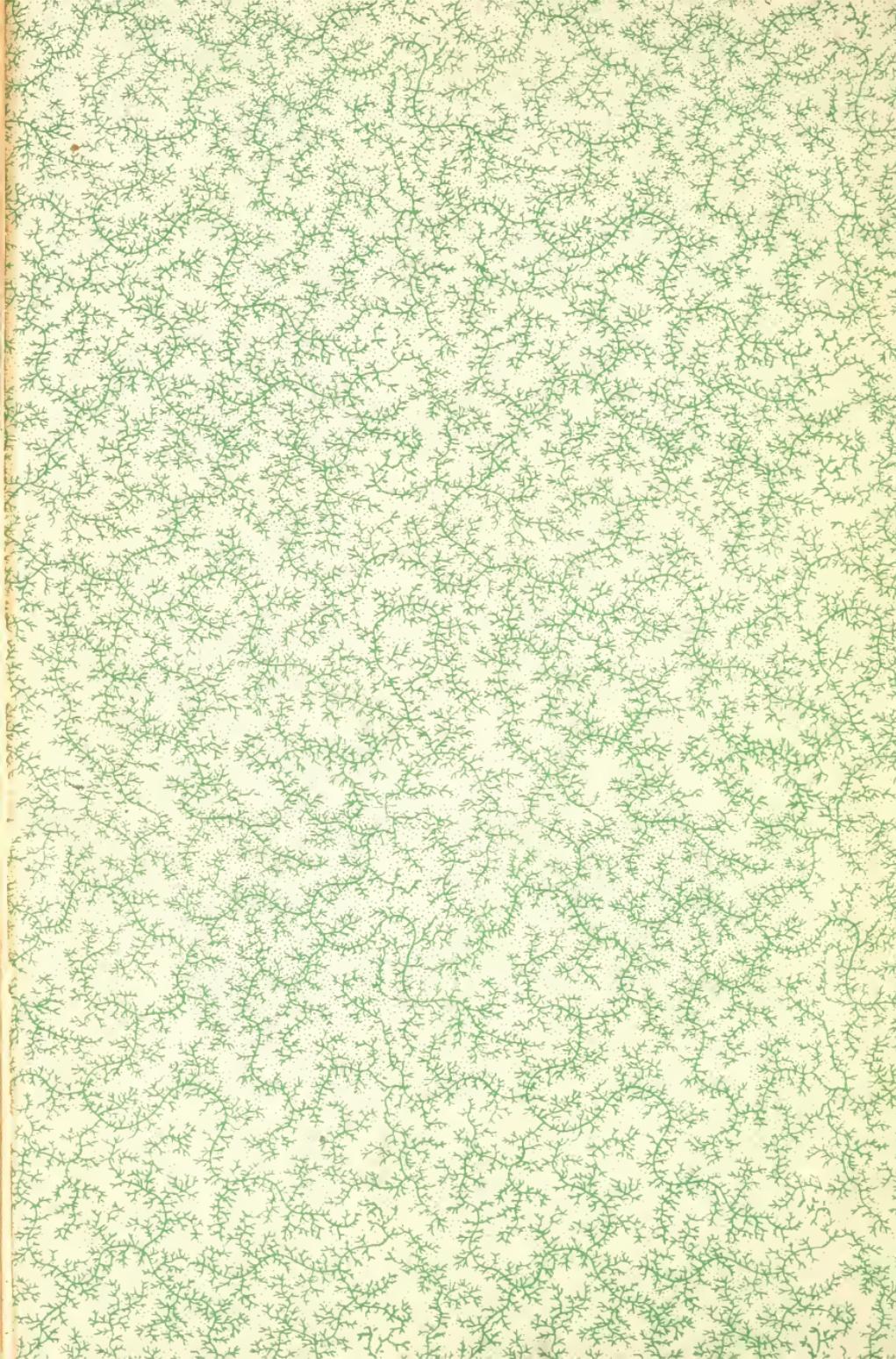
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